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ABSTRACT

The Teacher Education Research Center (TERC) program has developed during the past year from a group of loosely coordinated and unrelated projects to a problem-oriented program under several different components. The general problem under consideration is teacher induction, meaning the entire period of time between graduation and the moment the teacher feels secure and confident in his profession. The focus is on the first teaching experience. The TERC program has been divided into seven components under which all projects and activities are subsumed. These are: liaison with schools and other institutions, cooperation with pilot schools in developing a school-college program of individualized instruction, evaluation and modification of undergraduate teacher education programs, study of the induction of beginning teachers, cooperation with the State Bureau of Certification in developing performance-based criteria for certification, inservice teacher education programs in differentiated staffing, and an information system for teacher education trainees which will collect all data from tests and questionnaires. (A 132-page appendix contains details of the various TERC projects, some completed and some in progress.) (RT)

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Annual Report
of
THE TEACHER EDUCATION RESEARCH CENTER

Fall, 1969

STATE UNIVERSITY COLLEGE

FREDONIA, NEW YORK

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TEACHER EDUCATION RESEARCH CENTER

FOREWORD

Significant improvements in education are difficult to bring about. Unfortunately, throughout history, and especially so at the present time, "educational change" has become a surrogate for "improvement." There is little question but that our educational institutions are being profoundly influenced today by integration, urban ghettos, increased teacher militancy and a host of other complex external forces. There is little evidence, however, that such changes represent improvements; they appear to be rather forced compliances to the shifting social scene.

One can also witness, from the voluminous literature, many attempts on the part of educational personnel to direct internal improvement of educational programs. However well-intentioned such efforts may be, there is again little evidence that such "innovations" as improved teacher induction, team-teaching, programmed learning, and curriculum revisions have in fact brought about significant and lasting improvements in the quality of education provided for our youth. Why such good intentions fail is a hard question to answer. But it may well be that they fail not in lack of effort or good intentions, but because they are insufficient to override the basic inadequacies of an educational system conceived in an earlier age and because educators persist in proposing yesterday's solutions to tomorrow's problems. In short, many of the internal changes implemented in today's schools represent a kind of "educational dabbling." This is somewhat reminiscent of a self-conscious teenager's concern for his complexion - he applies all kinds of ointments for his acne and neglects his basic diet.

Few scholars would seriously question that the educational establishment of today is influenced by a mystique and folk-lore supported - not in theory or research - but chiefly in tradition. One might wish, in this dawn of the space age, that a tradition-bound leadership could somehow apply to the problems of today's schools, colleges and universities, the critical and objective appraisal which would be made by visitors from an interstellar civilization. Without doubt, the extra-terrestrial appraisors would ask such questions as the following:

> "Do you really expect to 'help each student become all he is capable of being' through mass education techniques and procedures?"
>
> "Can you develop good teachers for the public schools by divorcing the operation of college preparation programs from the changing needs of the schools?"
>
> "Why do you spend years in preparing teachers when they are assigned in public school settings which make only primitive demands on and use of professional skills?"
>
> "Can we take care of the induction needs of beginning teachers with a two-day workshop at the beginning of school?"

To alter tradition is hard. But the professional staff of the State University College at Fredonia have evidenced a willingness to challenge tradition. To replace a century old Campus School with a Teacher Education Research Center (TERC) took a courage which was engendered only by the conviction that dramatic realignments of resources were required to achieve substantial educational reforms.

Early efforts of the newly formed Teacher Education Research Center were directed toward the identification of an entry to the problem of educational reform. As a result of intensive study on the part of the professional staff at Fredonia and outside consultants drawn from the ranks of nationally recognized leaders in education, the "Induction of Teachers" was identified as a major concern for research and development activities of the Center. Induction was broadly defined as a process for preparing effective teachers which has its origins in preservice programs, includes student-teaching or internship experiences, and which continues throughout the on-the-job inservice training period provided in the schools.

Close collaboration between the Teacher Education Research Center and area public schools was facilitated by the Southwestern New York Association for the Improvement of Instruction. The Association, formed in the early sixties, is a voluntary membership of area public schools and representatives from the State University College at Fredonia. The Association agreed to support the study of "Induction of Teachers" as a problem of mutual concern to the College and the public schools. It was also agreed by the Association and TERC that major focus would be directed toward the study and development of systems of individualized instruction as a means of providing a facilitative environment in the schools for both instructional improvement and more effective induction of teachers.

Recent developments in the study of these two major themes, induction of teachers, and individualization of instruction, are described subsequently in this report.

This 1969-70 Annual Report of TERC serves two purposes: (1) the Report describes research and development activities and accomplishments of the previous year (1968-69) and (2) presents a program of action for the immediate future.

To assist TERC in planning, a number of area and nationwide educators have agreed to serve on a newly formed Advisory Panel. The staff of the Teacher Education Research Center is deeply grateful to these individuals for their willingness to serve on the Panel and will be most appreciative of their counsel. Members of the Advisory Panel are as follows:

Dr. John Bolvin, Learning Research and Development Center, University of Pittsburgh

Dr. Walter Borg, Far West Laboratory for Educational Research and Development, Berkeley, California

Dr. Robert Cooley, Superintendent, Dunkirk Public Schools

Mr. Samuel Danton, Supervising Principal, Cassadaga Valley Central School

Dr. Rocco Doino, Superintendent, Fredonia Central Schools

Dr. Thomas Hasenpflug, Superintendent, Southwestern Central School

Dr. David Krathwohl, Dean, School of Education, Syracuse University

Dr. Donald Medley, Senior Research Psychologist, Educational Testing Service, Princeton, New Jersey

Dr. Harold Mitzel, Assistant Dean for Research, College of Education, Pennsylvania State University

Dr. E. Robert Tabachnick, Chairman, Department of Curriculum and Instruction, University of Wisconsin

Dr. Merle Welsh, Assistant Superintendent, Williamsville Central School

Substantial improvements in education are difficult to achieve. The task is not impossible. This is what the Teacher Education Research Center is about.

CHAPTER I

INDUCTION INTO TEACHING

In common with the people in many other beginning occupations and professions (nurses, lawyers, physicians, and the like), teachers pass through a difficult and sometimes trauma-inducing experience when they leave the idealized shelter of a training program and enter the real life of the school. This "reality shock," as it is called by behavioral scientists, is perhaps more vividly described by a number of selected "quotes" taken from more than fifty 45-minute taped interview transcripts of a pilot study of induction problems and practices of beginning teachers. (In Chautauqua and Cattaraugus County and from a variety of training institutions; see Appendix II). This study was conducted during the spring of 1969 and the following quotes are selected as being among the more articulately worded representations of the problems and dilemmas that faced these beginning teachers:

> "It starts out hard and it gets easy afterwards... you're surprised at the problems...they aren't related to the concepts learned in the college courses."

> "I think the disappointments are quite often your own problems that you have to find a way around...they're quite often the problems that you create yourself anyway. So I feel that to be a successful teacher you have to learn how to correct your own mistakes and alleviate as much of the frustration as possible."

"When I got here, first of all, there were no books. So I was not only a pioneer as a teacher, but a pioneer with no books, no maps, no movies or tapes, and no nothing. I had the blackboard and the chalk and I had students. And that's what I taught with."

"One thing that I wish I was more prepared for was the general attitude of the students...they couldn't care less about school in a lot of cases. You have to learn by actually teaching. You can't have a course on it because you can't teach teachers on how students are going to behave or how they are going to react. This is something you are going to have to find out for yourself."

"If they (the college instructors) were to teach the way teaching is supposed to be done, I think you would find more teachers, or more beginning teachers, would understand what teaching is all about."

"I had a bit of a rough time with it in the beginning but now we're just sailing along beautifully. In the beginning though it was really bad because I was unsure of myself. No one helped me."

> "At first, I was very, very disappointed because of the attitudes of the kids...it was hard to deal with them but later the kids got more interested and asked more questions. (now) I'm getting through to them and I am teaching them something."

Among the tentative results gleaned from this study (conducted by the Teacher Education Research Center and summarized by Dr. Hull, - see Appendix II - I) are the following conclusions hinted in the quotes above and clearly indicated in a number of other similar studies:

1) Almost all beginning teachers report a great many problems and difficulties in their initial teaching experiences. These persist throughout the first year for many but are solved or ameliorated by most --- probably resulting in many unknown and undetermined consequences for students and teachers.

2) Teachers feel that they are provided little assistance in their professional induction into teaching. Although they feel that the schools make a modest effort in this direction, a large majority of beginning teachers feel that the assistance does not cover their most critical problems and furthermore is rarely available at the time when it is needed most.

3) A majority of beginning teachers feel that much of the college preparation they received lacks relevance to and provides little preparation for the most critical problems for their initial teaching experience.

Initial concern for teacher induction practices began under the leadership of Dean Dallas K. Beal, now Fredonia's Acting Vice President for Academic Affairs, a group of faculty and school personnel who spent much of the 1967-68 academic year in study and consultation with national leaders in an effort to determine the appropriate focus and direction of the newly established Teacher Education Reseach Center (TERC). An important conclusion of that study was that the development, testing and evaluation of models of induction into teaching seemed a most promising research theme for the new Teacher Education Research Center. A cursory review of the literature indicates that induction into teaching covers the areas of (a) professional, (b) personal and social, and (c) community and area needs and requirements. The professional induction of the beginning teacher has not been the subject of a great deal of study by researchers. Existing studies seem preoccupied with the personal and social adjustment of teachers rather than their professional adjustment. The problems of induction have been of considerable inward concern to school administrators for a great many years. Little has been done, however, except to describe in critical terms the problems of beginning teachers. The induction thrust of TERC is in the area of "professional induction" into teaching. That this was a wise resolution of emphasis is supported by the preliminary results of the pilot studies mentioned above. Experience in the first two years in the definition of this focus of "professional induction" has clearly indicated that although providing some program direction it has sufficient flexibility and "diffuseness" that almost any research and development effort in education or the behavioral sciences can be subsumed or accommodated under its "umbrella." However, this focus provides a means of establishing relative priorities for determining the potential contribution a particular R and D project has for improving "induction into teaching." It will be noted from a review of the TERC projects (completed and in progress) in Appendix II that although all can claim some relevance to this focus, some have a greater potential for improvement of "induction" than others. Sharpening of the focus of the TERC program will be a continuing concern because of a limitation of resources and the need to develop projects that are interrelated and "add up to something."

Narrowly defined, the professional Induction into Teaching is that period of time which begins with the new teacher's first school employment, and is concluded when he has satisfactorily demonstrated the acquisition of a repertoire of teaching skills and strategies in the presence of learners, individually and in groups. Induction into Teaching refers to a program of action planned jointly by a university and selected school systems employing new teachers. In this narrower context, it may be viewed as an extended period of teacher education designed specifically for the purpose of insuring that beginning teachers do, indeed, become more effective in their use of an increasing range of professional skills.

It is, however, vitally important to point out that Induction into Teaching is not an event; rather, it must be viewed as a process intricately connecting the components of pre-service teacher education, the induction period and in-service education as well. Indeed, for the process to be effective, it requires the total reexamination of the existing organization of public school instruction and the educational format of teacher education as well.

The appointment of the Director of the Teacher Education Research Center in the fall of 1968 marked the beginning of a year of intensive planning as well as the carrying out of several exploratory studies. This planning was carried out with a number of interested faculty members and southwestern New York schools. Key participants in this planning were Dr. John B. Bouchard, Professor of Education at Fredonia, members of the Southwestern New York Association for the Improvement of Instruction; Dr. Lonie Rudd, Professor of Education at Fredonia, and others at SUC/Fredonia as well as a number of southwestern New York school administrators. Out of this initial planning effort emerged the program of research and development in the schools which promises to interrelate and thus maximize the impact on schools of instructional research and development by a number of individuals and groups in the area and at the college. The major emphasis of this program is on development with the research effort supportive of the developmental goal.

This consortium is not formalized in any major sense; cooperation is voluntary and varies from activity to activity. However, the college and area schools have already benefited from improved communication and coordination of activities. The principal groups involved in this consortium are as follows:

Groups	Participatory Activities Contributing to School Impact
1) The Teacher Education Research Center (TERC)	1) Research and development leading to improved models of teacher induction.
2) Southwestern New York Association for the Improvement of Instruction.	2) The development and testing of a model for individualization of instruction and participation in programs and procedures leading to the improvement of teacher induction.
3) The Education Department at Fredonia (The Education Department of other colleges and universities in western New York State will be involved as cooperative arrangements are made) various college departments at Fredonia and other colleges in western New York interested in cooperative arrangements. (Particularly in the behavioral sciences and subject fields supporting teacher education.)	3) Improvement of the professional training of teachers and administrators and Research and Development contributing to improved models of teacher induction and individualization of instruction.
4) A five-year project at SUC Fredonia entitled "Improving the Learning Climate for Children Through More Effective Use of Paraprofessionals."	4) A cooperative program involving college and schools to develop a program of identification, training, utilization, and follow-up of paraprofessionals in selected schools.
5) In-service Curriculum Change Agents Institute, SUC at Fredonia.	5) Conducts a program of "team efforts" directed toward curriculum development and implementation in selected school systems.
6) Consortium of Research Development (CORD), SUC at Fredonia.	6) Encouraging and assisting in research and in the development and evaluation of instructional systems.
7) Chautauqua County BOCES.	7) Dropout Prevention Program and in-service training of teachers.
8) Western New York School Development Council (Buffalo and Olean)	8) In-service training of teacher utilizing Far West Laboratory Minicourses.

Groups	Participatory Activities Contributing to School Impact
9) Pilot schools in the development and field testing of the POISE Model for individualized instruction and models of pilot schools presently include the Cassadaga Valley Elementary Schools, the Glidden Avenue School of the Southwestern School System near Jamestown, and several schools in the Williamsville school district.	9) Improving the effectiveness and efficiency of instruction and assisting in development and field testing of models of individualization and teacher induction.

Many of the activities of this consortium are indicated in the remainder of this report, in the appendix list of activities (Appendix I), and in TERC projects underway (Appendix II).

In summary, Chapter I has attempted to (a) describe the evolving focus of the TERC program and (b) the TERC effort to facilitate and to bring together, in various consortium arrangements, the efforts of various groups in Western New York who have an interest in instructional improvement and more specifically, induction into teaching.

CHAPTER II

COMPONENTS OF THE PROGRAM

Basic Philosophy Underlying the Program

The basic philosophy underlying the strategy and planning for the program of the Teacher Education Research Center includes the following: (1) A mission oriented mix of research and development with an initial focus on development is a primary emphasis of the TERC program. The strategy envisages selecting promising prototypic instructional modules or systems having a high probability of success, adapting them to local situations, and carrying them through iterations of field testing and refinement with appropriate evaluations during this process (See Appendix II F and II N as examples; (2) The TERC program proposes a series of studies that will provide feedback information helpful in improving the induction of teachers in schools and also in the preservice portion of this induction (See Appendix II B, II G, and II I) as examples; (3) An important strategy in the projects being planned is the emphasis on interdisciplinary team efforts which involve the users of the particular development undertaken or the feedback information sought; (4) Initially, most of the TERC research and development program will concentrate on work in the elementary schools and in the induction program for elementary teachers; (5) As indicated in the preceding chapter, the major efforts of the initial TERC program will be concentrated in a number of selected pilot schools. The research and development emphasis in these schools will focus on the mutually supportive themes of "Induction into Teaching" and "Individualization of Instruction."

Beliefs and Assumptions Underlying the TERC Program

There is a scarcity of solid, scientific knowledge underlying the programs, practices, and procedures of teacher education. Factual information available is mainly of a descriptive or status nature. Additionally, there is no systematic body of theory underlying teacher education. The conceptual framework, in the main, is a consensus of the beliefs held by prominent leaders in the field who have assembled statements of model or ideal programs and their individual conceptions of the truths or assumptions underlying these programs. This "establishment" framework now, and increasingly in the future, is and will be under attack by society, students and in various ways by local, state and federal agencies.

It is our conviction that TERC must formulate a set of conceptual statements which indicate our current beliefs and assumptions on the subject of teacher education and more specifically teacher induction. This conceptual framework should serve as a partial basis for the research and development program. A set of twelve such conceptual statements were developed for the Fall 1968 Annual Report of TERC. The following is an elaboration and an extension of the best. A review of the design specifications of the nine model elementary teacher education programs, which were funded by the U.S. Office of Education in the last few years, also has been a helpful source in extending the list. Obviously this list will need periodic revision and should be used as a basis for discussion, further revision and extension, and, most importantly, as a basis for further research and development. There is nothing terribly new about most of these but the irony of the situation is that most of us would rather exhort one another than do something about them.

1) Teachers tend to teach in the manner or way in which they have been taught. This is a generally accepted belief in teacher education and there is some research support for this belief. If we accept this belief, then it should follow that teacher-educators should, in various specific ways appropriate to an adult population, instruct prospective teachers in the manner in which they themselves are expected to perform. Unfortunately, many professional education classes are conducted via lectures which exhort the students to individualize instruction.

2) Prospective teachers should be involved as immediately as is practical in a variety of teaching and school experiences. There is a good deal of research to support the contention that one of the first experiences that a prospective teacher needs, and would like to have, is to attempt to teach. Much of the material covered in current methods courses, child development, and in educational psychology, has greater significance and meaning if it follows, or is concurrent with, beginning school experiences, simulated or real.

3) There is a gap between the theory and knowledge (the art and the science of teaching) transmitted to students in education courses and the practice of teaching. The beginning teacher

attempts to bridge this gap and in this effort finds much of the frustration that seems to be so clearly expressed in all studies of beginning teachers.

4) Teacher preparation should be designed to produce effective teaching behaviors. This is another way of saying that a series of performance criteria should be determined and held as a standard for individuals in the teacher education program.

5) There is no single dimension of effective teaching behavior, but rather a repertoire of behaviors which are likely to be effective. Teachers may behave quite differently in a given situation, yet be equally effective.

6) Education in the elementary and secondary schools of the future will not be limited to traditional group activites but will be increasingly involved in activities of an individually guided nature. This prospect mandates the need for an individualization of teacher education to the extent that program, staff, facilities, and budget permits. This individualization will need to include content, instructional method, pacing, and scheduling.

7) Not only should teacher preparation include experiences leading to effective roles in the self-contained classroom and technology of today, but the preparation should also provide experiences to equip teachers to cope with membership on instructional teams and the differentiated and specialized roles expected of teachers in the schools of tomorrow.

8) Teacher preparation experiences, both in pre-service courses and in student teaching/beginning teaching roles, should provide the student with an introduction to, and some experience with, a variety of instructional resources including elements of advanced educational technology such as multi-media, computer-assisted instruction, computer-managed instruction and the like.

9) Students at every school level can, and should, be given more responsibility for planning and carrying out their own program of instruction (self-directed instruction) than is now permitted.

10) Students at all levels may learn as much, or perhaps more, from their peers as from their teachers. (The Coleman Report suggest this). Although elementary and secondary schools have begun to capitalize upon this, the college level courses, in general, do not pursue this promising lead. (The project described in Appendix II N is an exception to this generalization).

11) Teacher education programs of the future will necessitate the involvement of a number of public schools which will be used as a setting for a considerable part of the teacher education program. These training centers, portal schools, or clinic schools as they are variously called, will become the arena for much of the teacher education effort of the future. (Fredonia presently calls these "Pilot Schools"). Additionally, they

will provide an excellent setting for various kinds of research and development. In order to do this effectively, it is believed they will need to provide appropriate physical settings and program characteristics as suggested in Numbers 6, 7, 8, 9 and 10 above.

12) Undergraduate teacher preparation should include an internship period followed by further training and experience, to aid the beginning teacher in attaining higher levels or roles of instructional competence.

13) Pre-service teachers should be exposed to a variety of school situations, either by personal experience or through simulation techniques. This exposure should include the total panorama of the most advantaged to the most disadvantaged settings.

14) More of the knowledge available from the behavioral sciences should be used in the training of teachers; for example, skill training, applied knowledge about the learning-teaching process, understanding of organizational structure, the development and use of behavioral objectives, and others.

15) There must be a consistent and integrated set of policies and practices for teacher training, teacher certification, teacher utilization and teacher advancement.

16) A beginning technology and "know-how" is available for the development and limited field testing of a first iteration of a replacement for the "X" hour certification requirement for teaching. This exploration needs to involve training institutions, teachers, schools, and State Education Department personnel. It should not await a further period of research. While early attempts to develop criterion based certification may be controversial since they will not have the assumed validity and high objectivity which the "X" hour requirements now possess, they will start us down the road of a more realistic and relevant solution. Teaching shares this dilemma with dozens of other professions and occupations. However, education in general, has been slow in responding as compared to others.

The philosophy and conceptual framework described above together with the "Induction into Teaching" focus, provide direction for the TERC program and also suggest the components which are described in the following section.

Components of the TERC Induction Model

Projects and activities of the TERC program have been arbitrarily subsumed under the following seven components:

1) Continuation of, or Establishment of, Liaison with Public Schools, Sister Institutions, the New York State Department of Education and the Education Research and Development Organizations and Agencies.

Initial liaison arrangements with the groups above include development of a basis for communication and exchange of materials. A further step down this road is a working arrangement to cooperate in research and development efforts.

2) Cooperation with a Selected Number of Pilot Schools in the Development of a School-College Program of Individualized Instruction and Induction into Teaching.

This component of the TERC program makes the assumption that induction into teaching is enhanced in an organizational setting of (a) differentiated staff roles, (b) a nongraded structure, (c) a teamwork effort, (d) an emphasis upon individualized instruction, (e) planning and decision-making by a council or committee at the building and/or system level, and (f) the utilization of particular staff skills and competencies, or in other words, the POISE Model - the New York adaptation of the Wisconsin Multi-Unit School (See Appendix II B).

3) Continued Evaluation and Modification of the Undergraduate Teacher Education Programs in Terms of the Behavioral Requirements of Teaching.

The adaptation and field testing of promising prototypic instructional modules in teacher education, such as the effort to utilize the Far West Laboratory Minicourses which now constitute the major emphasis of this component (See Appendix II N and II O).

4) The Study of the Induction of Beginning Teachers.

This component focuses on studies of the induction problems of beginning teachers, the administrative and supervisory programs and procedures which are intended to assist in their inductions into teaching and the influence of preservice training upon their effective induction.

5) Cooperation with the State Bureau of Certification and Selected Systems in the Development of Performance Based Criteria for Certification.

Changing certification requirements for the provisional and permanent certificate for teachers in New York State may affect the early requirement of specific education courses, and lead ultimately to a type of certification in which the prospective teacher must demonstrate a level of competence in the use of a variety of teaching skills presently overlooked. The most important implication of this new development is that institutions such as Fredonia, in cooperation with public school systems, the State Education Department, and teacher groups, will need to develop performance-based criteria and procedures for certification. Planning for the first iteration of this model should be an early priority of TERC but will have to await the cooperative action of all involved as well as the necessary resources.

6) In-service Education Programs for Teachers in the Differentiated Roles Required of Today's and Tomorrow's Teacher.

In cooperation with a number of groups, TERC is attempting to develop a continuing training program leading to the effective implementation of the POISE Individualization Model and the improved induction of teachers, student teachers, beginning teachers, experienced teachers, and unit or team leaders into these Models. Initially, emphasis here will be in the pilot schools.

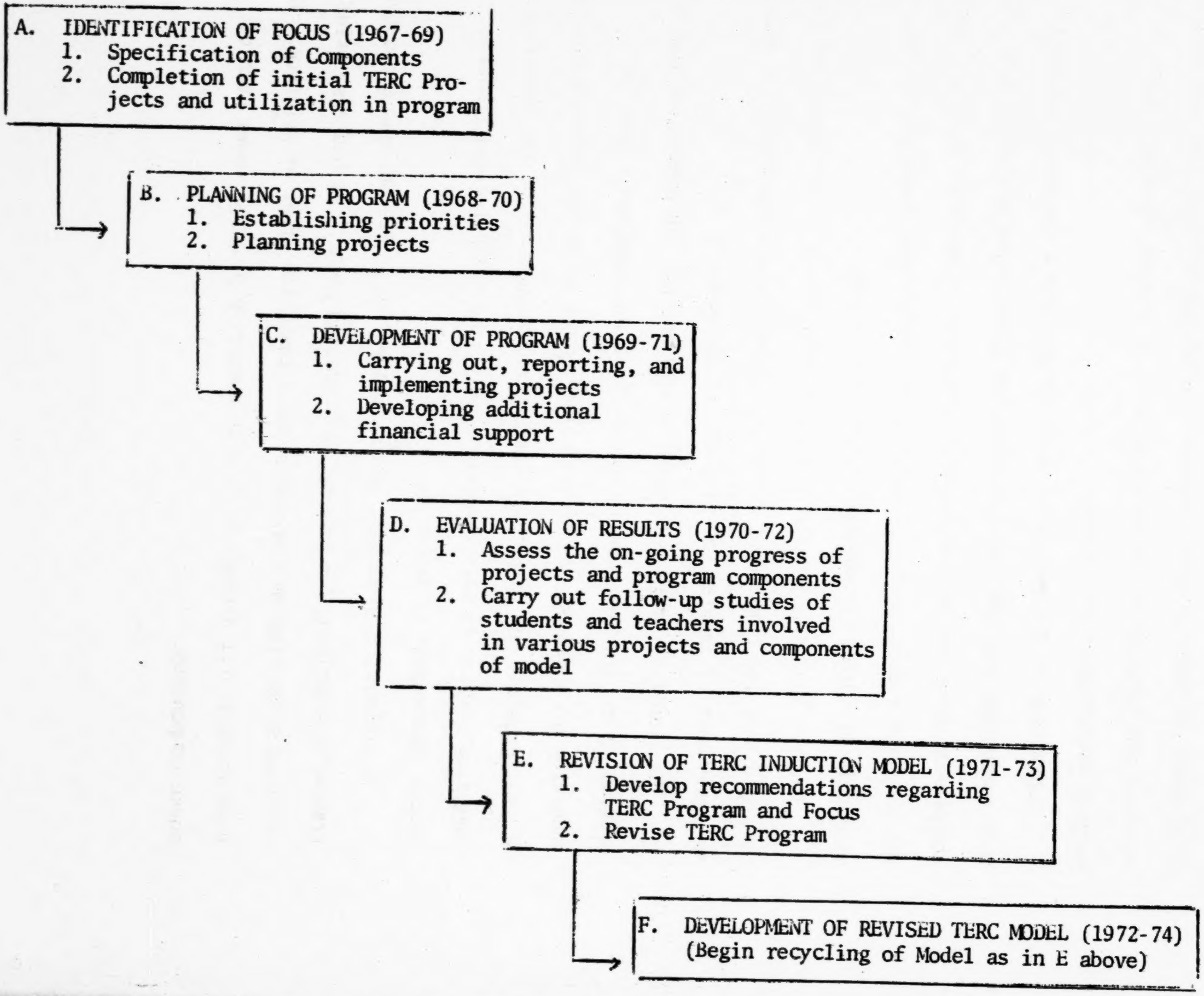
7) Information System for Teacher Education Trainees (College Entrance Through First Year of Teaching).

It is proposed that Fredonia should develop a common core of tests, questionnaire and interview items for all teacher education trainees. A storage and retrieval system, which will serve instruction and administration as well as research and development purposes, will be needed in order for this to be of maximum service for all concerned. This will serve many of the research and evaluation purposes of the program and avoid duplicate inquiries. The data acquisition procedures will be continued through the pre-service training period and into the first year of teaching. It is hoped that a design feasibility study of such a system can be carried out as an early priority of the total program.

The Proposed Cycle for the Induction Model

It is obvious that projects in the above listed components will require coordination. The decision to emphasize projects involving induction of elementary teachers will assist in this coordination and

CHART I PROPOSED INDUCTION MODEL CYCLE FOR TERC



A. IDENTIFICATION OF FOCUS (1967-69)
  1. Specification of Components
  2. Completion of initial TERC Projects and utilization in program

B. PLANNING OF PROGRAM (1968-70)
  1. Establishing priorities
  2. Planning projects

C. DEVELOPMENT OF PROGRAM (1969-71)
  1. Carrying out, reporting, and implementing projects
  2. Developing additional financial support

D. EVALUATION OF RESULTS (1970-72)
  1. Assess the on-going progress of projects and program components
  2. Carry out follow-up studies of students and teachers involved in various projects and components of model

E. REVISION OF TERC INDUCTION MODEL (1971-73)
  1. Develop recommendations regarding TERC Program and Focus
  2. Revise TERC Program

F. DEVELOPMENT OF REVISED TERC MODEL (1972-74)
  (Begin recycling of Model as in E above)

should sharpen the program focus. It was assumed at the outset that development of these program components would not go on at the same rate and that availability of resources as well as program strategy would suggest differential priorities.

Experience in the past year seems to indicate a tentative judgment that components one, two and six should be given first priority, with components three and four a secondary priority. Components five and seven may be given a third priority level unless additional resources become available or further experience indicates a change.

Chart 1 indicates present plans for the cycling of the model and it is hoped that the cumulative effect of projects and components will enable an assessment of results and products of the model by 1972.

The results of this assessment should provide information on the program focus, and the cumulative effect of the components upon the induction of teachers. An effort will be made to assess individual projects as they progress and upon their completion through use of the criterion suggested earlier in this chapter, namely, the potential contribution toward improvement of induction.

In summary, this chapter has indicated the philosophy and conceptual framework underlying the present TERC program plans. It has also briefly outlined seven program components and a tentative order of priority. The next chapter will attempt to briefly summarize progress under each of these components.

III

PROGRAM ACTIVITIES

Program activities in this report are described in several ways. In Appendix I there is a chronological listing of events or highlights of activities. In addition to showing a rather frenetic activity of the participants in the TERC program, this listing also indicates the growing emphasis upon activities in area public schools and the beginning interest of the college and local schools in the POISE Model.

It also reflects the evolution of a number of selected pilot schools to develop the mutually supportive models of individualized instruction and teacher induction.

A second dimension of program activity is reflected in Appendix II where sixteen projects, completed, underway, and projected are described in some detail and show the recent efforts to sharpen the focus of the TERC program as well as to build interrelationships among projects and individual researchers.

A third way of showing program activities (past, present, and projected) is by describing them under each of the TERC components (briefly described in the preceding chapter). This may help the reader to better understand the program components and provide a means of testing attitudes concerning the validity and usefulness of individual components as well as the method of program description and operation. The following chart (Chart 2) is a description of TERC activities by each of the components as taken from the fall 1968 TERC Report. Under each of these component statements of activity taken from last year's report, is a cross-page series of comments which has been annotated to show what actually was accomplished during the last year and what is now thought of as a realistic projection of activities.

Chart 2. ACTIVITIES FOR TERC MODEL COMPONENTS (FALL 1968 VERSION WITH ANNOTATED COMMENTS AS TO EXTENT OF ACCOMPLISHMENT AS OF FALL 1969)

Components	Activities up to April 1969	Activities for Next Year 1970-71	Activities Projected Next 3 to 5 Years
1. Liaison and working arrangements.	Strengthen liaison with local school systems and a selected number of pilot schools, with the State Education Department, sister institutions of the State University, and a variety of R & D Organizations. Develop a working relationship with the Far West Laboratory, the University of Wisconsin, the University of Oregon R & D Center, Stanford R & D Center, and the University of Texas R & D Center.	Continue extension of liaison activities and planned joint field-testing and development activities with the R & D agencies mentioned in column 2. Working relationships with other R & D agencies will be developed as found desirable and necessary.	Revise and strengthen liaison and working relationships already underway, develop relationships with sister teacher education institutions in the State, build working relationships with appropriate state department agencies in Albany such as the teacher certification group.

Comments as to activities, Fall 1969:

Because of limited resources and a shortage of travel funds, TERC was limited to visits and the development of working relationships with the Wisconsin R & D Center for Cognitive Learning, the Far West Laboratory at Berkeley, and a beginning interaction with the Learning Research and Development Center at the University of Pittsburgh (described in greater detail in Appendix I and II).

A half-day's conference was held last fall by a small group from Fredonia with Dr. Vincent Gazzetta and members of his staff on the relationship of TERC activities with the New York State Department of Education's interests in in-service training of teachers and certification of teachers. It is hoped that the coming year will see the strengthening of cooperative programs with the above mentioned groups as well as development of liaison and some form of cooperative relationships with the R & D Centers at Oregon, Stanford, and Texas as well as with RBS, the Philadelphia Laboratory interested in the dissemination, and field testing of IPI. Beginning liaison and working relationships were established with a number of pilot schools in the Cassadaga Valley system, the Southwestern system and the Williamsville school system in the course of the last year. It is hoped that these relationships can be strengthened in the future and that additional public schools can be involved in the development of the pilot school concept. (See Appendix II F and II H for further information about the pilot school plan).

Components	Activities up to April 1969	Activities for Next Year 1970-71	Activities Projected Next 3 to 5 years
2. Pilot Schools for Individualized Instruction and Teacher Induction.	Assist in carrying out orientation program of Southwestern New York school systems on the Wisconsin Multi-Unit School Model.	Selection of a number of pilot schools for participation in the Wisconsin Multi-Unit School Project. Plan and carry out summer school workshops and active cooperation with pilot schools selected during the 1969-70 school year.	Evaluation of results of activities in pilot schools. Revision of Pilot school induction program and extension of revised pilot school induction program to a larger number of public schools.

Comments as to activities, Fall, 1969:

As suggested in Number 1 above, beginning pilot schools were established in the Cassadaga Valley System as was the Glidden School from the Southwestern System. Plans were underway with the Williamsville School District to develop a more meaningful cooperative program with that system and eventually the development of several pilot schools in that system. Several summer workshops were carried out here at the Fredonia campus and in the Cassadaga Valley System during the last year. A workshop is being planned for the summer of 1970 at Fredonia and beginning plans are underway to study activities in the pilot schools. (For more information see Appendix II E, II F, and II H).

3. Modification of Undergraduate Program.	Experimental activities with elementary and early childhood teacher education programs such as the Minicourse and other promising curriculum modules.	Evaluation of results of experimentation with elementary and early childhood programs, and revision of these programs as the result of preliminary evaluation	Continued experimentation and revision of elementary teacher education programs. Begin plans for experimentation with selected secondary education teacher preparation programs.

Comments as to activities, Fall, 1969:

An experimental use of Minicourse I was carried out in spring 1969 with the junior professional teacher education sequence at Fredonia under the direction of Dr. Donald McFarland. Students in that sequence are being followed up in their student teaching activities this year. The experiment is described in greater detail in Appendix II-O. A follow-up of this Minicourse experiment will be carried out in spring 1970 involving the integration of Minicourse materials with the elementary mathematics courses at Fredonia. This experiment is described in greater detail in Appendix II-N. Discussions are proceeding with a number of education department staff members on possible cooperative activities in the undergraduate sequences for next year.

Components	Activities up to April 1969	Activities for Next Year 1970-71	Activities Projected Next 3 to 5 Years
4. Studies of the Induction of First Year Teachers.	Review literature, summarize past studies, and plan study of induction for schools in Southwestern New York State	Carry out induction study and report results.	Study induction of first year teacher products of experimental teacher education programs at Fredonia.

Comments as to activities, Fall, 1969:

A Pilot Study of problems and practices in the Induction of Beginning Teachers was carried out last year by Dr. Bouchard and Dr. Hull and a brief report of this Pilot Study is in process. In addition two proposed studies have resulted from this Pilot Study and are described in Appendix II I and Appendix II E. A related study on the Professional Socialization Process in Teaching is being carried out by Dr. Paul Dommermuth of the Fredonia Sociology Department and promises to shed some new light on the socialization process of teachers as they are inducted into teaching. (See Appendix II G)

5. Performance Based Criteria for Teacher Certification.	Maintain liaison with State Education Department activities in certification.	Plan development of performance-based criteria with State Education Department and local school systems.	Develop and field-test criterion prototypes.

Comments as to activities, Fall, 1969:

Dr. Beal and Dr. Nelson attended a spring 1969 conference held by the State Education Department in Albany to discuss proposed developments along these lines. Little additional activity can be reported on this component at this time but it is hoped that the coming year will see further developments in this important activity.

Components	Activities up to April 1969	Activities for Next Year 1970-71	Activities Projected Next 3 to 5 Years
6. In-service Teacher Education.	Develop initial plans for prototype development in several pilot schools.	Assist in carrying out in-service workshops on plans for prototype school systems to develop in-service teacher education.	Field test prototype programs in a number of pilot schools.

Comments as to activities, Fall, 1969:

A large number of workshops, meetings, and visits to other school programs were carried out during the course of the last year (See Appendix I and Appendix II F). A summer 1970 workshop is being planned in relation to the two previously mentioned projects. In addition, Appendix II N describes a plan for a consortium training of a number of teachers in western New York using the Far West Laboratory Minicourses. Plans are underway to involve a number of specialists from the Education Department in specialities such as reading, social studies, mathematics, and science in in-service work with the pilot schools and other extensions of the TERC in-service education component.

7. Information System.	Plan information gathering system.	Begin the development of information storage and retrieval system of data pertinent to the system.	Apply system in instruction and research and development activities and evaluate its effectiveness.

Comments as to activities, Fall, 1969:

An 81 item Personal Data Inventory consisting of first choice type questions was field tested with over 100 students in the junior professional sequence at Fredonia during the spring 1969. This was an effort to test the feasibility of gathering such information during the beginning of the education sequences and also to test the adequacy of items taken from a large number of other kinds of questionnaires. After this inventory has been given to another group of junior students this year the information will be summarized and studied with respect to the utility of items in the various researches being planned at Fredonia as well as the student response to this kind of data gathering. Dr. Schultze, the Director of Institutional Research, is interested in the development of some kind of a systematic data gathering, storage and retrieval system of basic student information at Fredonia and TERC efforts along this line will be coordinated with him as well as with other research groups on the campus.

Chapter III has attempted to describe TERC program activities under the program components as presently conceived. It is also tried to show the relationships of the components one to another as well as to relate the components to the program and project plans contained in Appendix II.

Also, it should be noted that last year's goals were exceeded in the course of the year for all components except numbers five and seven (performance-based teacher certification, and the student information system).

CHAPTER IV

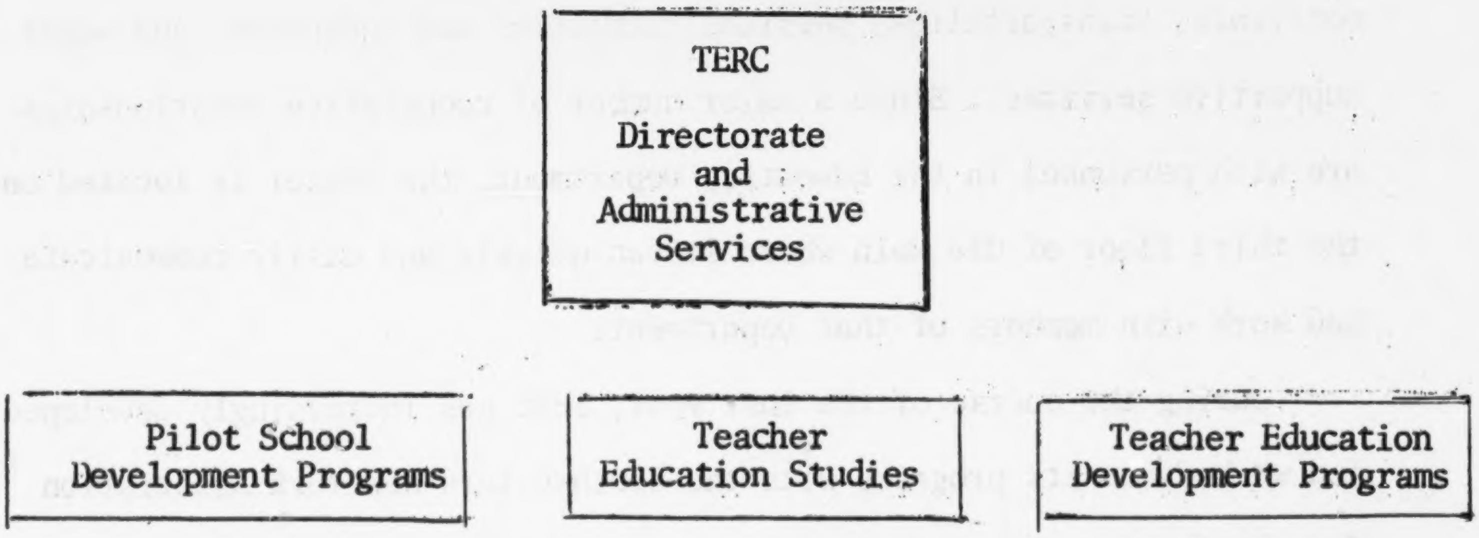
ADMINISTRATION

Organizationally, the Teacher Education Research Center reports to the Vice President for Academic Affairs at Fredonia. The program of TERC requires that it must work directly with the many departments and organizational groups. These include the Education Department, the Instructional Resources Center, the Office of Institutional Studies, the Office of Graduate Studies and Research, the Behavioral Sciences Departments, particularly, Psychology and Sociology, and other institutional resource groups particularly those involving reproduction of written materials, transportation, physical facilities and equipment, and other supportive services. Since a major number of cooperative relationships are with personnel in the Education Department, the Center is located on the third floor of Old Main where it can quickly and easily communicate and work with members of that Department.

During the course of the last year, TERC has increasingly developed and worked out its programs with the Southwestern New York Association for the Improvement of Instruction, the Elementary Teacher Education group, and the Consortium on Research Development (CORD), as well as maintained liaison with the several other research and training projects which are carried on by these groups. These are mentioned at the end of Chapter I of this report and include in addition to CORD, the Preparation of Paraprofessionals Training Project, the Curriculum Change Agent Project, and several others.

It is anticipated that during the next year, a much closer working relationship will be developed with a series of pilot schools working cooperatively with the college in the development of the mutually supportive individualization and induction models. Beginning discussions are taking place about the establishment of a college supported professional person in the pilot schools to coordinate the several programs carried out with these schools including the development of a model for student teaching supervision (See Appendix II H).

The organizational structure of the Center has still not been established and little has been done to implement or recruit staff for the organizational plan which was tentatively suggested in last year's progress report. This organizational plan is shown below:


TERC
Directorate and Administrative Services
Pilot School Development Programs
Teacher Education Studies
Teacher Education Development Programs

The relationship of the above organization to the components of the TERC model mentioned in Chapter III will be as follows:

Pilot School Development Programs:

- In-service Education
- Pilot School Teacher Induction

Teacher Education Studies:

- Studies of Induction
- Development of Performance-Based Criteria
- Information System

Teacher Education Development Program:

- Evaluation and Modification of the Undergraduate Teacher Education Programs

Dr. Ronald Hull was recruited for membership in TERC last summer and efforts are underway to recruit a number of other full-time TERC staff members. The present TERC staff is as follows:

Dr. Kenneth G. Nelson, Director
Mr. Douglas Rector, Research Associate
Miss Mildred Mills, Research Associate
Dr. Ronald Hull, Research Assistant
Mrs. Helen McKee, Research Assistant
Mr. Brien Murphy, Research Assistant
Dr. Bonnie Star, Part-time Research Associate

The addition of Mrs. McKee, Miss Mills and Mr. Murphy to the TERC staff this past September has added considerable impetus to a number of the TERC projects. Because of the shortage of staff, the above mentioned people work in all of the three programs shown on the organizational chart as they are needed.

Recruiting additional staff members for TERC has been one of the biggest problems facing the Director. This is because of the unusual character of a research center located in a small college lacking the graduate school facilities and graduate students at the doctoral level, as well as other substantial supportive services associated with large institutions. Prospective staff usually ask questions about the availability of graduate students, computer services, and other facilities which usually accompany a research program. A second problem in the recruiting of staff for the Center has been occasioned by the strong development thrust of the TERC program and the need to recruit people who have this interest and capability in addition to a research potential. However, it is anticipated that the Teacher Education Research Center will be successful in recruiting staff members in the next year to provide the badly needed competencies in research and development design, statistical and measurement skills, computer programmed usage, and a number of other competencies usually associated with a research operation.

An Advisory Panel has been selected and is listed in the foreword of this report. It promises to have an important role in shaping the projects and programs of the Center and, hopefully, a number of members of this panel can assist in the first component of the TERC program, namely that of continuing liaison and working arrangements with other R & D groups.

In last year's report a mention was made that a small executive committee would be formed to provide coordination, policy and major decision making for the Center. This did not materialize because of the failure to add additional senior staff members to the Center. In the in playing some role in development and/or research within this programmatic setting.

A last important and continuing administrative problem of TERC is the fact that Appendix II projects a list of research and development projects which are far beyond the present resources of TERC. Aspirations beyond organizational resources are a healthy condition for most agencies, but alternate paths will need to be explored to avoid the disaster of over-commitment. These include the following: securing outside funding, recruiting additional TERC staff, attracting additional qualified staff members presently at Fredonia to assist in the various TERC projects, postponing or slowing down the development of some of the projects, cutting out or discontinuing some of the projects, and lastly, enlisting the assistance and cooperative resources of outside groups in various consortium arrangements. (The project described in II N is an example of such a consortium).

All of the above described stratagems will need to be selectively employed to deal with the problems. Possible over-commitment in itself is not a disaster; failure to deal with it realistically can certainly be such a disaster.

interium coordination is obtained through several ways. Dr. Bouchard, the Executive Secretary of the Southwestern Association for the Improvement of Instruction, the Director, and Dr. Beal, Acting Vice President for Academic Affairs, work as an executive committee. Another coordinating effort is beginning to take place in the meetings of a committee involving the Acting Dean for Teacher Education, selected members of the Education Department, the Vice President for Academic Affairs, the Director of TERC, the Placement Office Director, the Director of Field Experiences, and the Executive Secretary of the SWNY Association.

More specific guidelines for the organization and administration of the Center and the functions of the executive and advisory groups need to be formulated and efforts will be made to bring this about in the near future.

The transition of the TERC program from a group of loosely coordinated and unrelated projects on several different campuses and in a number of different departments to a mission oriented program described in the preceding chapters has caused a number of difficulties.

As is true in collegial settings, college professors at Fredonia are reluctant to accept a mission-oriented, programmatic research and development effort since institutional pressures and professional motivations favor the establishment of a Center with a series of loosely interrelated projects of particular interest to individuals. Much of the Director's time during the last year has been spent in explaining this new role of TERC and trying to interest faculty members from various departments

CHAPTER V

SUMMARY

The phrase "Induction into Teaching" still means a variety of things to most people in education. To the people closely associated with TERC, it has come to have a more consistent and specific meaning as a process, rather than an event. Through this process individuals acquire the professional skills and competencies required of teachers in today's and tomorrow's schools. The assumption is also made that the most critical stage of that process is in the first teaching experiences.

During the last year the TERC program has shifted from a group of loosely coordinated and unrelated projects on several different campuses and in a number of different departments toward the direction of a mission or problem oriented program under a number of related components.

Several studies and experiments have been launched and ambitious plans made for the year ahead. Perhaps the most important development has been the joint effort of TERC, the SWNY Association, the Education Department, and a number of interested area school administrators to launch the mutually supportive programs of "Individualized Instruction" and "Teacher Induction" in a number of pilot schools.

A number of emerging problems have to be discussed, the most critical of which is a program commitment beyong present resources. However, the TERC staff is optimistic about the developments for the year ahead.

Appendix I - 1

Events of Interest, 1968-1969

In order to give a broad overview of developments in Induction of Teachers and Individualization of Instruction which have occurred during the period September 1, 1968 through December 31, 1969, the following illustrative activities and accomplishments are presented.

An effort has been made to present these in some semblance of chronological order. It is apparent that some were of brief duration, others represented a continuing investment in time and resources. No attempt has been made to provide a listing of all of the important items or to suggest that some listed are more important than others which may have been omitted. Many of the activities described involve TERC personnel. However, many other individuals and agencies who have participated with the Teacher Education Research Center are listed.

It is hoped that the overview, presented in "highlight" fashion, will provide the reader with a better understanding of the Teacher Education Research Program.

1966-1970 - ESEA Project (Title III - "Classroom Help") established an instructional resources center at the Chautauqua County Board of Cooperative Educational Services (BOCES) and instituted a delivery system to participating schools which created a dramatic increase in use of instructional materials with emphasis on individualization. Proposal was written by John B. Bouchard, SUC/Fredonia, and Florence Emerling, BOCES.

1968-1969 School Year - Academic year devoted to intensive study of literature on individualized systems of education, especially University of

Pittsburgh's IPI, University of Wisconsin's Multiunit Approach, Duluth Plan, Project PLAN (AIR), USOE Project 70.

October 3, 1968 - Endorsement by the Southwestern New York (SWNY) Association of major study of Wisconsin Multiunit Approach to Individualization. Endorsement, also, of study of Teacher Induction as a major interest of both area schools and TERC.

November 26, 1968 - Area conference sponsored by SWNY Association and TERC on Individualization at SUC/Fredonia. Speaker and consultant - Mr. Norman Graper, Principal, Wilson School, Racine, Wisconsin.

December 1, 1968 - TERC and SWNY Association released "Tentative Study-Guide for Organizing a Multiunit School."

January, February, March, 1969 - Drs. Nelson and Bouchard met with school administrators, school boards and teacher groups to discuss individualized programs in education. Estimated coverage, 25 - 30 groups.

March 12-14, 1969 - Fourteen Western New York school and college representatives visited experimental public schools in Racine and Janesville, Wisconsin, inspecting Multiunit school operation.

Spring 1969 - Dr. John Bouchard released "Elements of School Organization Essential to an Effective Program of Early Identification and Prevention of School Dropouts" as a component of Chautauqua County BOCES Title VIII Proposal.

Spring 1969 - Micro-teaching experiment involving TERC, Education Department, Fredonia Central Schools. The experiments adapted and field tested "Minicourse I - Effective Questioning in a Classroom Discussion" (see Appendix II - O-1).

April 29, 1969 - SWNY Association Advisory Committee recommended systematic approach for keeping school boards informed about area research and development activities via a newsletter, Search in Educational Trends (SET).

April 29, 1969 - Announcement of State approval of financial support for studying the preparation of paraprofessionals. This five-year project to study the training and use of paraprofessionals in area schools is entitled, "Improving the Learning Climate for Children Through More Effective Use of Paraprofessionals." The project is under the direction of Dr. Lonie Rudd, SUC/Fredonia. Jane Smith and John Hillenbrandt, Bemus Point, collaborated in preparation of proposal.

May 12, 1969 - Selection of title for Fredonia adaptation of Wisconsin Multiunit Plan as Pupil Oriented and Individualized System of Education (POISE) (see Appendix II - F-1).

May 19-23, 1969 - Fifteen one-inch Ampex Video Tapes secured from the University of Wisconsin and made available for local school study of the Wisconsin Multiunit Plan.

May 28, 1969 - Dr. John Bolvin, Professor of Education, University of Pittsburgh, served as special consultant on Individualized Education Programs and was the principal speaker at the Annual Spring Meeting of the SWNY Association. His topic was "Individualization of Instruction."

June 1, 1969 - Spring/Summer issue of Search in Educational Trends (SET) released through the SWNY Association and TERC.

June 1969 - Chautauqua County BOCES Proposal, "The Early Identification and Prevention of School Dropouts" (Title VIII Project) was accepted and funded by USOE. SUC consultants were Drs. Bouchard, Nelson and Sefein.

June 16-20, 1969 - Released-time workshops at Cassadaga Valley Central School for participating staff of prospective POISE Model schools with Mrs. Elaine McGregor, Principal, Winslow School, Racine, Wisconsin, serving as special consultant.

June 21 - July 12, 1969 - Douglas Rector and George Roberts attended workshop, "Analysis and Modification of Teacher Behavior," University of Maryland.

June 23 - August 1, 1969 - Dr. Donald McFarland's USOE grant, "In-service Curriculum Change Agents," funded. Program designed to familiarize in-service teachers and principals with latest curriculum developments in elementary school science and social studies, and in techniques for implementing these new programs in local schools. A year-long program of curriculum innovation in participating schools scheduled for 1969-70.

June 23 - August 1, 1969 - Paraprofessional Project Summer Institute for 14 participants from six county schools met five days a week with a highly concentrated training program.

Summer, 1969 - TERC staff assisted Dr. John B. Bouchard in preparation of prospectuses for federal grants under the Education Professions Development Act for "Differentiated Staff Roles in the Elementary School" and "Early Childhood Education."

July 29-30, 1969 - Special Summer Conference on Individualization sponsored by SWNY Association, SUC Education Department, TERC. Mr. Norman Graper, Principal, Wilson Elementary School, Janesville, Wisconsin and Mr. James Walter, Director of Dissemination, The Center for Cognitive Learning, University of Wisconsin, as consultants. Conference placed emphasis on practical problems of organization and training leaders for further study of individualized instruction.

August 18-19, 1969 - TERC staff visited the Pennsylvania State University Computer Assisted Instruction Program. Interest centered on IBM 1500 computer systems in elementary mathematics, elementary music and ninth-grade mathematics.

Fall, 1969 - Malcolm J. Slakter and Roger A. Koehler, State University of New York at Buffalo, in cooperation with TERC, published a final technical report, "Test-Wiseness" (See Appendix II - D-1).

September 3, 1969 - POISE Model initiated in K-5 units and unique 6th level unit in Cassadaga Valley Central School. Individualization model initiated in 2nd through 5th levels in the Glidden Avenue School, Southwestern Central School System.

September 9, 1969 - Eight college seniors began a semester of student teaching in the POISE Model participating schools.

October 6, 1969 - SWNY Administrators' Meeting sponsored by TERC, Chautauqua County Chief School Officers, SWNY Association addressed by Dr. C. Mauritz Lindvall, Professor of Education, University of Pittsburgh, on, "Individually Prescribed Instruction." Dr. John Bouchard outlined to the SWNY Association plans for the establishment of Geographic Centers for continued study of individualization among the schools of Chautauqua and Cattaraugus counties. Participating centers are Dunkirk-Fredonia, Jamestown and Olean.

October 21-23, 1969 - Fifteen educators from area public schools and five members from the SUC/Fredonia staff observed in action the Individually Prescribed Instruction program (IPI) developed at the University of Pittsburgh. Also visited by team members were Project PLAN, the Learning Research and Development Center at the University, Project PEP (The Individualized Pre-school adaptation of IPI), and Schenley High School Computer-Assisted Instruction Program.

October 29-31, 1969 - A training session on EPDA proposal writing for Differentiated Staff Roles was held in Northfield, Massachusetts with Drs. Nelson and Bouchard attending by special invitation.

November 5-7, 1969 - TERC staff attendance at Educational Research Association (ERANYS). Papers submitted and read by Ronald Hull and John Bouchard - "A Pilot Study of Problems and Practices in the Induction of

Beginning Teachers" (see Appendix II - I-1); Bonnie Star and Douglas Rector - "Student Attitudes Toward the Use of Minicourse I - Teachers Questioning Skills in a Pre-Student Teaching Phase of Elementary Teacher Preparation" (see Appendix II - O-1).

November 6, 1969 - February 1, 1970 - Paraprofessional Project Academic Year Training. Two workshops conducted simultaneously meeting the training needs of paraprofessionals with one 2-hour session per week. Augmenting this training, all-day meetings scheduled for November, January, March and May of the current academic year.

November 20, 1969 - Chief School Officers of Erie and Niagara Counties addressed by Drs. Nelson and Bouchard. The POISE Model was described and discussed.

November 24, 1969 - Educational Professions Development Act Proposal entitled, "More Effective School Personnel Utilization," submitted to the Department of Health, Education, and Welfare. If funded, this will accelerate and augment the locally supported differentiated staffing.

December 4, 1969 - TERC staff at Cassadaga Valley Central School for "Teachers' Workshop on POISE Model" - a system-wide demonstration and explanation session.

December 10, 1969 - Dr. Nelson discussed research and development with Campus School Research Directors of State University units in SUC/Cortland.

December 11, 1969 - TERC staff at Glidden Avenue School, Southwestern Central School System presented taped POISE slide series to staff and students. The Instructional Resources Center of SUC/Fredonia assisted in developing the presentation.

December 15, 1969 - Fall/Winter issue of Search in Educational Trends (SET) released through the SWNY Association and TERC.

December, 1969 - Plans and discussions began with Jack Hanssel and David Mack, Director and Co-director, respectively, Western New York School Development Council, regarding a Consortium of area educational agencies (SWNY Association, TERC, Western New York Development Council) to provide in-service training in Questioning Skills through use of Minicourses. Matched funds are being sought through the New York State Education Department under the Locally Oriented In-service program (LOIS). Use of Minicourse materials is being negotiated through the Far West Laboratory. TERC concerns will include securing data for field testing; possibilities for simultaneously collecting experimental data are being studied (see Appendix II - M-1).

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F. A Proposed Plan for the Continued Development and Implementation of a Pupil Oriented and Individualized System of Education (POISE) Model - John B. Bouchard and Kenneth G. Nelson F-1 to 47

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J. Development of an Approach to the Teaching of Intermediate and Junior High Social Studies Through an Independent Multi-Media Approach - Matthew Ludes J-1

K. Inter-Campus Consortium for Computer Assisted Instruction in Music Theory - John A. Maier K-1 to 2

L. A Study of the Spelling of Third, Fourth and Fifth Grade Pupils Who Received i/t/a Reading Instruction - Walter T. Petty and J. Brien Murphy L-1 to 2

M. A Consortium for Microteaching and Experimentation, Using Far West Laboratory Minicourses - Douglas Rector, David Mack and Jack Hanssel M-1 to 2

N. A Model for the Integration of Minicourse Materials with the Elementary Mathematics Methods Courses - Douglas Rector, Alice Hilton, Lonie Rudd, Bonnie Star, and Margaret Rector N-1 to 6

O. The Effect of Pupil Feedback on Questioning Behavior of Pre-Service Elementary Education Students Engaged in Microteaching - Douglas Rector and Bonnie Star O-1 to 6

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APPENDIX II

STUDIES COMPLETED AND IN PROGRESS

A. A Multi-Media Structurally-Based Music Curriculum for Primary Grades - Phyllis Dorman

The project was conducted with the cooperation of the Chautauqua County Music Teachers' Association, the Board of Cooperative Educational Services and the State University College at Fredonia.

The project focused primarily on helping teachers broaden their perception of teaching music so that they were less concerned about teaching music reading and more concerned about identifying musical concepts. By using multi-media learning experiences, rather than depending primarily on singing as a means of presenting these concepts, it was hoped that students who depended on visual or kinesthetic images could compensate for their lack in aural imagery through use of especially designed materials. To this extent one could say there are implications for individualization.

Since the termination of the project, an evaluation has been completed by Mrs. Florence Emerling (BOCES) and John Bouchard (SUC, Fredonia) and public school personnel involved.

Visual aids constructed for instruction are in the BOCES library and are available for use by various teachers and supervisors in the county. At the present time, an article based on such materials is in progress.

B. The Understandings of Mathematics and the Attitudes Toward Mathematics Expressed by Prospective Elementary School Teachers - Alice S. Hilton

The purpose of this study was to measure and compare the understandings of mathematics possessed by certain elementary education majors at three developmental levels in their undergraduate professional preparation, and to assess and compare the attitudes toward mathematics expressed by these students at the same times.

The study sought answers to these questions: How well do students understand mathematics at the beginning of their junior methods courses? What are their attitudes toward mathematics at this time? Do understandings change during the professional sequence? If so, in what way? Is there a difference in expressed attitudes? If so, is this difference a positive or a negative change? Do changes occur in mathematical knowledge and/or attitudes during the professional courses in the junior year? Do they occur during the senior student teaching experience? Are the changes, if any, significant? Several hypotheses were formulated to test for significant changes.

In order to make comparisons of 'Attitudes toward Mathematics' and 'Mathematical Knowledge', the subjects were tested during their professional preparation. The sample consisted of seventy-two elementary education students who were in their junior year at the inception of the study. They were first tested at the beginning of their junior professional semester, a semester devoted to professional methods courses and related areas in education. Subsequent testings took place at the conclusion of the methods course work and at the conclusion of the senior student teaching experience.

The principal data gathering instruments employed in the study were a 'Mathematics Knowledge Test' constructed by L. G. Callahan, an 'Attitude Scale' developed by J. M. Rice, and a series of three questionnaires. The assembled data was analyzed and certain statistical procedures were used to test the hypotheses. In both the attitude and knowledge areas, the use of the analysis of variance technique to determine the F statistic was followed by the use of the t test to determine possible significance of the differences between certain specified means. For each of the three sets of scores, the product-moment formula was used to compute the correlation coefficients, which, in turn, were evaluated to determine possible significance.

As a result of the analysis of the data, certain conclusions were drawn. The group of prospective elementary school teachers who constituted the sample, showed significant increase in mathematical knowledge during the time they were enrolled in the professional sequence. During the junior professional semester, mathematical knowledge increased significantly as mathematical content was related to the teaching of mathematics in the elementary school. The slight decrease in the knowledge scores at the final testing was non-significant. At the conclusion of the study 69.4 percent of the sample evidenced an increase in mathematical knowledge.

Significant positive change in attitudes toward mathematics took place while the students were enrolled in the professional sequence during their junior and senior years. On the whole, the attitudes were favorable at the outset; they grew increasingly positive at each subsequent test time. From the initial to the final test times, positive gains in attitude were expressed by 75.0 percent of the sample. At each of the three testings, significant positive correlation between the knowledge and attitude scores was demonstrated.

In general, the students who participated in this study had had more formal preparation in mathematics and possessed greater mathematical knowledge than students involved in previously reported studies. The student teaching experience during the senior year, seemed to have a strongly positive influence on the attitudes toward mathematics as expressed by the students. The mathematical knowledge scores attained at the same time showed a small non-significant decrease.

The completion of the original study has not been the conclusion of investigations of mathematical knowledge possessed by, and the attitudes toward mathematics expressed by, prospective elementary school teachers. As an on-going investigation, the students are being assessed in these areas at the beginning of their course work in the junior professional semester and at the conclusion of the same semester. As data is assembled, it will be analyzed by procedures suitable to the evaluation of possible differences. An attempt will be made to draw comparisons and to note possible trends and changes as successive groups of students experience the professional preparation provided during one of the semesters of their junior year.

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C. What the People of Dunkirk Think of Their Schools - Edwin Lawson*

A survey was conducted by graduate psychology students and community volunteers from April 3 until May 1, 1969. The purpose of this survey was to assess:

1) the accuracy of information being received about the schools.
2) the quality of school-community relationships.
3) the variety and strength of attitudes about the schools.
4) the improvements felt necessary by residents.

The population consisted of all the residents listed on the school census record of the Dunkirk School District. A sample of 400 names was taken by taking every 18th name from the school census record. Of the sample of 400 names supplied by the school, 333 contacts were made and 214 usable interviews were completed.

The questionnaire consisted of 88 questions designed to yield data concerning the respondents' opinions, attitude, knowledge and behavior concerning the schools and their operation.

Of the 54 opinion items 44 showed significantly positive attitudes toward the schools (or in some items, endorsement of present policies).

It was found with information items that the sample was not as well-informed as might have been expected.

In summary, then, the residents of the Dunkirk School District have a deep reservoir of support of current (1969) school practices. According to the people of Dunkirk, the schools are doing a fine job.

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*This study was not financially supported by TERC but is included here due to its supportive role in the development of TERC.

D. Risk Taking and Test-Wiseness - Malcolm Slakter

Under the direction of Malcolm Slakter, State University of New York at Buffalo, a study, "Risk Taking and Test-Wiseness" was planned and implemented by faculty representatives of SUC/Fredonia and officials and staff members of the Fredonia Central School. This endeavor was an extension of an earlier USOE funded research project.

The project was started in 1967 and a final report was distributed in the fall of 1969. This was the first research report completed under the sponsorship of the Teacher Education Research Center. (Limited numbers of the 276 page report entitled, "Risk Taking and Test-Wiseness" are available at the Teacher Education Research Center or from the author.)

The following is a brief summary of the final technical report.

Variation in objective examination scores due to factors other than item content tends to limit the usefulness of these examinations. Test-wiseness, which can be defined as the ability to correctly answer test items through the characteristics of the items and/or the test taking situation, has been suggested as one possible source of this type of variation in test scores. This project was concerned with the following questions:

1) What is the relation between test-wiseness and grade level or sex?
2) To what extent can test-wiseness be learned through programmed instruction?

These questions were considered for two fairly distinct aspects of test-wiseness (a) risk taking on objective examinations (RTOOE) and (b) test-wiseness in the form of item clues (TW).

Implications of the Project

Students at all grade levels are not equal with respect to RTOOE and TW behaviors.

The experimental study provides evidence that TW skills can be learned and retained by programmed textbooks. Hence, it would appear to be feasible to identify examinees who are deficient in TW skills, and then to provide these examinees with appropriate programmed texts in order to alleviate their deficiencies. The option of improving examinations to the point where they exclude TW is appreciated by the investigators, but already existing standard achievement and aptitude examinations--to say nothing of present and future teacher-made examinations-seem to indicate that the exclusion of TW on examinations will not be readily accomplished. The objectives of this learning program would be not only to decrease the errors of measurement, but also to decrease the handicap under which many examinees apparently operate. For example, certain subsets of the population (black students, rural students, and the like) score lower on achievement or aptitude tests than the population at large. Future research should attempt to examine the part played by TW in these mean differences.

PROJECT PROSPECTUS

E. A Proposed Plan for a Pilot Study of Supervisory Practices in Induction of Beginning Teachers - John B. Bouchard and Kenneth G. Nelson

Introductory Comments

The project represents an effort to implement some of the recommendations contained in the, "Pilot Study of Problems and Practices in the Induction of Beginning Teachers," recently completed by the Teacher Education Research Center. The schedule for principals as prepared for and used in the Pilot Study was based on the assumption that if there were indeed chronological sequences of induction practices for beginning teachers planned throughout the school year, data concerning these activities would be secured through the study. Data which were obtained indicated that little if any sequentially planned programs of induction of beginning teachers existed throughout the first year among the schools visited in the sample. Since such conditions existed, application of the schedule by the interviewers was devoted to the repetition of the few limited induction practices, both formal and informal, which were actually used among the schools in the sample. This suggested that some revision of the interview schedule of principals was indicated; this schedule should be made less repetitive in terms of a sequence of induction activities and should perhaps probe in greater depth as to what takes place in classroom visitation, individual teacher conferences, and other supervisory practices. A better definition of actual supervision also appeared to be indicated to exclude the possibility of confusing the term with such generalized practices as area teachers conferences, general staff meetings, and social events.

As a result of the discussion of the Pilot Study, the members of the Teacher Education Research Center Staff considered the desirability of securing data concerning supervisory practices in the typical self-contained classroom schools and in the new school reorganization represented by the Pilot Schools seeking to implement the Pupil Oriented and Individualized System of Education (POISE Model).

There is no question but that most of the Chautauqua-Cattaraugus County area schools, like those of the nation as a whole, are traditionally organized with self-contained classrooms at the elementary level or departmentalized classes at the high school level as the means of instructing groups of children. The fundamental reorganization involved in the elementary schools employing the POISE Model provides, for the first time, an opportunity to compare an innovative form of reorganization with the traditional school in terms of supervisory practices. While supervisory practices, in the broader context, will refer to the procedures and techniques utilized for improvement of teachers and directed towards the provision of better instruction for boys and girls, initial emphasis will be given, during the study of supervisory practices, to induction procedures directed at helping beginning teachers become more effective in their instructional responsibilities.

This project will then, as a result of the deliberations of the TERC staff concerning the recommendations of the, "Pilot Study of Induction Problems and Practices of Beginning Teachers," represent a significant departure from original plans. The project will consider not only the investigation of supervisory problems and practices in traditionally organized schools, but will seek comparative data from the Pilot Schools regarding the induction of beginning teachers.

While there are many studies of supervision in the self-contained classroom schools, virtually no data are available concerning supervisory practices in the innovative school environment called for in the POISE Model. It was evident to members of the TERC staff that some common concerns relating to supervision must be identified for both traditional schools and the Pilot Schools in the POISE Model if studies of the relative effectiveness of supervisory activities in each school setting were to be undertaken. It was recognized that such a procedure would require more time and planning than the original proposal for a separate study of supervisory practices in traditional school settings. Nevertheless, the revised proposal to study supervisory practices seems to be highly appropriate and essential to the induction theme of the Teacher Education Research Center at Fredonia.

General Objectives

The objective of this project is to secure data concerning supervisory practices in the Pilot Schools representing the POISE Model and those in traditionally organized schools as they relate to the induction of staff personnel. Such data will be used to provide feedback and guidelines for improving preservice and inservice education programs for teachers; the identification of promising alternative induction procedures; the preparation and dissemination of more effective models of induction for both traditionally organized schools and schools which seek to implement the features of the POISE Model.

Importance, Need of Study

The proposed project closely relates to the major Induction Theme of the Teacher Education Research Center. While there are studies of supervisory activities in the traditionally organized public schools, little evidence can be found of their impact on increasing the effectiveness of individual teachers in the discharge of their professional responsibilities. Apparently, supervisory practices in the traditionally organized school, to whatever extent they may exist, are directed towards treating the common needs of teachers in general rather than attempting to identify and provide for the capabilities, interests and needs of each individual teacher.

Research on supervisory activities in the traditionally organized schools is also generally adjusted to accommodate to the hierarchial structure of these schools and involves studies of principal - supervisor relationships with teachers. In response to any search directed towards the means of meeting individual teacher needs, frequent mention is made of the use of the "Buddy System." This usually refers to the kind of impromptu assistance a new teacher receives from her colleague across the hall who has presumably solved a similar problem with another group of children in the past.

The fundamental reorganization of the school as represented by the POISE Model produces a number of interesting departures from the usual supervisory framework represented in the traditional schools. There is little question but that the POISE Model requires a far greater differentiation of staff roles than the self-contained classrooms in the traditionally organized school. Such individuals as the principal, the supervisor, the unit leader, the team teacher, the paraprofessional, the student teacher or intern - all of these appear to face substantially different task requirements in the POISE Model than those of their counterparts in the self-contained classroom. Little is available in the research to provide guidelines for studies of innovative schools such as those implementing the POISE Model. However, some preliminary work has been done by Roland J. Pellegrin[1] in the study of organizational characteristics of multiunit schools.

In a limited survey which involved the comparison of three multiunit schools with three traditionally organized control schools, Pellegrin studied organizational characteristics, interdependent relationships, the division of labor, authority, decision-making processes and influence, the operational goals of teachers and job satisfaction in environmental climate. His tentative findings suggest that substantial differences in such factors exist between the two kinds of school organizations.

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[1] Roland J. Pellegrin, Allen T. Slagle, Lloyd Johansen, "Working Paper No. 22 - Some Organizational Characteristics of Multiunit Schools," Joint Publication of Center for Cognitive Learning and Center for Advanced Study of Educational Administration. Madison, Wisconsin, University of Wisconsin, June 1969.

It is the long range goal of this project to further investigate in depth some of the questions raised in Pellegrin's study and to further explore, in the various Pilot Schools seeking to implement the POISE Model, promising procedures which evolve for the effective induction of various staff personnel. Some of the broad questions which can be identified at the present time include:

> What procedures are provided for identifying individual teachers' capabilities, interests and needs?
>
> What sources of help are available to assist these teachers in meeting their individual needs?
>
> How is this help provided?
>
> What means are employed in evaluating the effectiveness of alternative procedures utilized for helping teachers improve their instructional effectiveness?
>
> What kind of authority - dependency relationships are established?
>
> To what extent do individual members of an instructional team begin to specialize within the total responsibilities of the team?
>
> How is such specialization determined by the individual? by the persons in authority? by the instructional team?
>
> To what extent does the individual teacher make his/her own decisions?

The above are but a few of the questions which will be considered in the projected study. It must also be added, that ultimately some concern must be exhibited in the project for the influence of supervisory practices in both the POISE Model schools, and the traditional schools, on the achievement of the pupils enrolled. This, however, is much further along in the evolution of the study.

Strategy or Operational Plans

There is little question but that the proposed project is an integral part of the broader study and development of the POISE Model submitted as a separate project. However, it seems to be of extreme importance that priority be given to the study of supervisory practices in the induction of staff personnel in POISE Model Schools as well as in traditionally organized schools if data are to be sought and evaluated for the development of guidelines for Induction Models in either kind of school organization.

Since there is virtually no research available which is directly related to this project it will be essential to plan on a long range basis. It is estimated that preliminary data will be required from the Pilot Schools, through interview and observational procedures, to establish some tentative instruments for studying supervisory practices. Some direction will be given by the Pellegrin studies; however, it is recognized that these studies have barely scratched the surface of the problem. The following operational plan seems to be appropriate at the present time:

1) It is proposed that the Spring, Summer and Fall of the present year (1969-70) be directed toward observation and interview procedures in the Pilot Schools to determine practices in terms of differentiated staff roles, supervisory needs of individual staff personnel, and the means being employed for identifying and meeting these needs.
2) The Pilot School data should be supplemented by similar data from other area schools. Both sets of data should be analyzed

to determine common interests, elements and needs.

3) Tentative schedules, monitoring instruments and evaluative devices should be prepared for field testing during Spring 1971. Following analysis of results during Summer 1971, a Pilot Study should be conducted during Fall and Spring 1971-72.
4) Following analysis of results of the Pilot Study during Summer 1972, the monitoring instruments and procedures should be revised for a Comprehensive Study of Supervisory Practices to be scheduled for 1972-73.
5) Data from the Comprehensive Study should be analyzed and a final report should be submitted by the end of Summer 1973.
6) Proposed Induction Models, based on recommendations from the Comprehensive Study should be prepared and disseminated during 1973-74.

Target Population or Experimental Subjects

Target population includes the Pilot Schools in the POISE Model and other selected schools in the Chautauqua-Cattaraugus County area.

Personnel and Budget Requirements

As has been previously indicated, the project is a part of the larger study of the development of the POISE Model which has been assigned special priority in terms of its significance to the induction interest of TERC. Time allocation for the project supervisors has been estimated as about 50% total time to be devoted to the development of the POISE Model as a whole. Because of the special importance of the project in, "Supervisory Practices Involved in the Induction of Beginning Teachers," it is estimated that 20% of the total time of the project supervisors will be devoted to this specific aspect of the POISE Model.

The project in Supervisory Practices is very closely associated with Ronald Hull's project in "Induction Problems and Practices of Beginning Teachers," Paul Dommermuth's project in the "Professionalization of Teachers," and Robert Driscoll's project in "Induction of Student Teachers." Close liaison among all of these studies is imperative and will be maintained throughout the duration of the projects.

Relationship of This Project to Other Projects In and Out of the TERC Program

As has been indicated above, the proposed project is very closely related to the major concern of TERC, Induction. Other studies which are closely associated to the study of "Supervisory Practices in the Induction of Beginning Teachers," include the "Study of Paraprofessionals." It is also difficult to disassociate the proposed project with the study of the other common essentials of the POISE Model such as: differentiated staff roles; the individualization of instruction; flexible scheduling; improved use of space and facilities; the development of an individualized system of pupil diagnosis, accounting, and reporting; cost analysis; (See Common Essentials of the POISE Model).

Time Schedule

Phase I:	Review of literature; preparation of tentative interview and observation schedules; utilization of schedules in present Pilot Schools and other area schools during the Spring and Fall of 1970.
Phase II:	Analysis of data from preliminary interviews and observations in Pilot and other area schools; development of tentative instrumentation, Spring, Summer 1971.
Phase III:	Field testing instruments, monitoring devices and procedures; planning and conducting Pilot Studies during Fall and Spring 1971-72; analysis of data, Summer session 1972; preparation of further refinements in instruments.
Phase IV:	Application of revised instruments for Comprehensive Study during Fall, Spring 1972-73; analysis of data for preparation of final report, Summer 1973.
Phase V:	Preparation and dissemination of Induction Models 1973-74. Begin plans for future investigation of impact of changes on school instruction, teacher performance, performance of pupils.

PROJECT PROSPECTUS

F. A Proposed Plan for the Continued Development and Implementation of a Pupil Oriented and Individualized System of Education (POISE Model) - John B. Bouchard and Kenneth G. Nelson

Introductory Comments

The POISE Model is an adaptation of the University of Wisconsin Center for Cognitive Learning, Multiunit Approach to Individualized Instruction to the special capabilities and needs of New York State schools. Other ideas for the POISE Model have been gained from the study of the University of Pittsburgh Learning Research and Development Center program, Individually Prescribed Instruction (IPI), and the American Institute of Research project, Provision for Learning in Accordance to Need (PLAN).

During the spring and fall of 1969, several area schools expressed interest in beginning the implementation of the POISE Model during the 1969-70 school year. This operation, currently underway, is supported by local resources. Activities of several related outside grants dealing with such topics as: curriculum change agents, study of paraprofessionals, identification and prevention of drop-outs have also contributed to the Model; continued liaison will be maintained to ensure optimum utilization of all available resources.

Primary concern is directed during 1969-70 in the Pilot Schools to school reorganization, formation of instructional teams, development of flexible scheduling, the identification and use of individualized instructional materials and procedures, and parent and community orientation. Special efforts will be directed by project staff toward the development of monitoring instruments and procedures to evaluate the progress made in the prototypic schools. Such studies in the Pilot Schools will also be used to prepare training materials for the Model Inservice Training and Dissemination Program.

Pilot Schools which are initiating the POISE Model during 1969-70 include:

Cassadaga Valley Central Schools	Williamsville Central Schools
Cassadaga Elementary School	Country Parkway Elementary School
Stockton Elementary School	Maple Elementary School
Sinclairville Elementary School	Maple West Elementary School
Gerry Elementary School	Mill Middle School

Southwestern Central Schools

Glidden Elementary School

It is important to note that the activities in this prospectus are proposed for funding through presently available area resources. However, a proposal for a USOE Grant under the Education Professions Development Act (EPDA) Program, More Effective School Personnel Utilization-Part D, has been submitted through the Cassadaga Valley Central School System as the sponsoring Local Education Agency. Should the proposal, An Inservice Training Model for Staff Roles in POISE Schools, be approved, EPDA funds will be used to enhance, augment and accelerate the Basic Model Program proposed for local support. Details of the enhanced and accelerated model are contained in the EPDA Proposal.

Statement of General Objectives

The complex operation described in this project demands several levels and a wide variety of objectives; these are presented below in the following sequence: ultimate objectives for the improvement of instruction; objectives of the Model In-Service Training and Dissemination Program; objectives of institutional and systemic change; goals for participants. Following the presentation of the objectives of this prospectus, their relationship to the objectives of the Teacher Education Research Center is discussed.

1. Ultimate Objectives for the Improvement of Instruction

a. The improvement of instruction for children: One of the ultimate objectives of this project is to provide improved educational programs and opportunities for the elementary school population served by the project. These include: (1) the pupils who will be directly served by the Pilot Schools; (2) the pupils who will be indirectly served as a result of project dissemination.

b. The development of a facilitative environment for learning. A second ultimate objective of this project is the implementation, among area schools, of a facilitative environment for learning, as represented by the Fredonia Model, Pupil Oriented and Individualized System of Education. Projected activities include: (1) the continued development and refinement of the POISE Model in existing Pilot Schools; (2) the initiation of the Model in additional area schools which express interest in participating.

c. The development of a facilitative environment for the induction of teachers. A third ultimate objective of this proposal is the development, implementation, and appraisal of a facilitative environment for the induction of teachers within the school reorganization represented by the POISE Model. Broadly conceived, the induction process will include all elementary school staff personnel such as the following:

Professional	Paraprofessional	Pre-professional
Elementary Administrator, Principal, Supervisor Elementary Teacher of Common-branch subjects, or Special Elementary Teacher of Music, Art, Physical Education, etc.	Teaching Assistant Clerical Aide Instructional Materials Aide Library Aide	Student Teacher Teaching Intern

In this proposal special attention will be directed toward the induction of student teachers, beginning teachers, and administrative and supervisory personnel. It is of interest to note that special study of the paraprofessionals is being conducted under a separate but related grant described subsequently in this proposal.

2. Objectives Related to the Model In-Service Training Program

   a. To provide on-the-job training in the differentiated staff roles of the POISE Model for elementary school personnel in the Pilot Schools.

b. To provide intensive summer training sessions for selected leadership personnel from present and prospective Pilot Schools.

c. To provide intensive five-day preschool opening workshops for personnel in new Pilot Schools.

d. To disseminate to all area schools, through three geographic inservice centers, progress reports and training materials developed in the Model Program.

3. Objectives Related to Institutional and Systemic Change

a. To study changes brought about in the Pilot Schools, as a result of implementing the essential elements of the POISE Model.[1]

b. To study alternative approaches to the implementation of the essential components of the POISE Model among the various Pilot Schools.

c. To prepare, field test and disseminate guidelines and training materials developed in the Pilot Schools.

4. Goals for Participants A major purpose of this project is to develop and provide inservice training for the differentiated staff roles called for in the innovative setting represented by the POISE Model. Such training will be directed towards:

a. The development of a system of individualized pupil appraisal, assignment and reporting.

b. The development of an ungraded instructional pool of pupils.

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[1] See Attachment, Page 1 for, Essential Components of the Fredonia Model for Pupil Oriented and Individualized System of Education (POISE Model)

c. The development of differentiated roles for administrative and supervisory staff, instructional team leaders, experienced and inexperienced team teachers; internees and student-teachers, and paraprofessionals.

d. The development of curriculum decision-making responsibilities for the instructional team.

e. The development of a system of instruction which seeks optimum individualization.

f. The development of effective systems of utilization of space and facilities.

g. The development of an effective system of public information and communications.

5. Relationship between Project Objectives and Teacher Education Research Center Objectives: The project objectives are designed to develop and implement, in selected Pilot Schools, a total teaching-learning environment which facilitates individualized instruction. Underlying these objectives is the assumption that major breakthroughs in instructional improvement in the nation's schools are not likely to be achieved in a traditional school setting which promotes grade-level instruction and the evaluation of pupil progress in terms of normative criteria. The present concern of the Teacher Education Research Center has been identified as the study of induction of beginning teachers in their public school settings. Unfortunately, virtually all area public schools present the typical group-centered organization featuring self-contained or departmentalized instructional groups.

The Pilot Schools which are developing and implementing the POISE Model present a new setting for research and development in the induction of beginning teachers. What new roles must such teachers be prepared to assume? What techniques and procedures must be identified to prepare a teacher for membership on an instructional team as opposed to assignment to a self-contained classroom? What sources of assistance should be made available to the beginning teachers, student teachers, or internee in the new Model? Who provides such assistance and how is it provided? What implications do findings concerning the induction process in the POISE Model schools have for the teacher-preparation program at Fredonia? What are the implications for leadership training in the proposed programs for the training of administrative and supervisory personnel at Fredonia?

The above are but a few of the many critical issues which this project makes available for the realistic study of induction and the development of an induction model by the Teacher Education Research Center.

Justification for the Continued Development and Implementation of the POISE Model

1. The Need for and the Development of the Model

The identification of the "Induction" theme as an entry to the long-range study of teacher education prompted questions of concern about the effectiveness of Fredonia teacher-graduates in adjusting to the demands of their assignments in the schools. As a result, plans were formulated to study induction problems and practices of beginning teachers among area schools served by the State University College at Fredonia. A pilot study, Problems and Practices in the Induction of

Beginning Teachers has been completed and the results are being analyzed to aid in the development of a subsequent comprehensive study of induction of teachers.

At the present time there seems to be little question but that the overwhelming majority of teaching positions throughout the nation as a whole - as well as in the service area of the college at Fredonia - call for instructors who are prepared for and oriented to group teaching. The net result is that elementary teachers are typically assigned to self-contained classrooms and secondary teachers are assigned to departmentalized classes in the appropriate disciplines. Such teachers have been prepared by training institutions, and are expected by the schools in which they serve, to provide group instruction, to gear children's learning experiences and assignments to the average performance attributed to the given grade level of the pupils they teach, and to appraise and report pupil progress on the basis of normative data. School induction practices where they exist, are designed to make such teachers more effective in group-oriented instructional settings. These practices, as revealed in reviews of the literature, and again in the local area Pilot Study, tend to cater to general estimates of the needs of new teachers. They include: a one day or two day general meeting for all new teachers; information sessions devoted to rules, regulations and procedures; "get acquainted" luncheons. Throughout the school year, where sufficient administrative or supervisory manpower exists, each beginning teacher may have infrequent classroom observations each followed by a conference. Great reliance is placed on an informal "buddy-system" where a beginning teacher who has encountered a problem with her own group of children receives the advice of her experienced colleague across the hall who has presumably satisfactorily solved a similar problem with another group in the past.

There appears to be little question but that the prevailing public school organization is geared to accomodate group rather than individual needs of both the pupils they enroll and the teachers who instruct them. While the literature is replete with many efforts to achieve instructional improvement, most attempts have made within the existing organizational structure. The inconclusive results of such efforts as the following is well known: reducing class size; adding additional staff; ability grouping; team-teaching.

In this proposal several assumptions are made:

a. Fundamental improvement of instruction can occur among area schools only through a system which emphasizes individualized rather than group instruction.

b. Individualized instruction can best be achieved through a fundamental reorganization of the schools to provide a facilitative environment for teaching individual children rather than groups.

c. The roles of staff personnel in the reorganized school will be fundamentally different from the roles of their counterparts in the traditional school.

d. Induction into teaching and the improvement of instruction is enhanced in a setting of differentiated staff roles, team work, and utilization of particular staff skills and competencies (the POISE Model).

With the above assumptions in mind, a Consortium of area schools, the SWNY Association for the Improvement of Instruction, the Education Department and the Teacher Education Research Center at the SUNY College at Fredonia was formed to study, develop and implement a school model for individualization of instruction.

During the 1968-69 school year intensive study of individualization and induction was conducted through: reviews of the literature, special in-service information and training programs with interested area teachers, administrative officers, and school board members; visitations to innovative programs in Wisconsin; conferences; preschool work sessions in prospective Pilot Schools with special consultants. As a result of such activities, substantial progress was achieved in the development of a Model Training Program with Pilot Schools, Centers for Dissemination, and Study Themes of Induction of Teachers and Individualization of Instruction. The Consortium approved the Model for area support in July, 1969. As previously mentioned, several area schools expressed an interest in implementing the POISE Model. Members of the Teacher Education Research Staff have undertaken, as a major commitment, the task of working closely with the Pilot Schools in the further study, development and implementation of the POISE Model.

2. Anticipated Outcomes of the Project

There is little question but that the fundamental reorganization of schools proposed in this project requires long range planning and goals. For the personnel in the Pilot Schools seeking to create a facilitative environment for the individualization of instruction the following tasks can be identified:

a. The study of the essential elements of the POISE Model in terms of the capabilities and needs of each Pilot School.

b. The identification, selection, and implementation of organizational changes and redefinitions of staff roles which promise to contribute to the continued development of the POISE Model.

c. The appraisal of the efforts of such changes in terms of improved individualization of instruction and induction of staff personnel.

In order to assist personnel in the Pilot Schools to achieve the outcomes indicated above, members of the Teacher Education Research Center staff must supply supportive services which include the following:

a. The provision of on-the-job and inservice training for the staff of the Pilot Schools to identify, study and implement promising approaches to meeting the essential requirements of the POISE Model.

b. To develop and apply appropriate evaluative instruments and procedures for appraising the effectiveness of the approaches used in each Pilot school.

c. To prepare and disseminate reports of progress to all area schools.

It is anticipated that the implementation of the POISE Model among the participating Pilot Schools will require a period of several years before individualization is substantially achieved. However, it is expected that continued progress will be made, year by year, in the achievement of such outcomes as the following:

a. Responsibilities of administrators, teachers, student teachers, internees, and paraprofessionals will differ greatly from those of comparable personnel in traditional schools.

b. New staff roles will be identified and implemented.

c. Allocation of time and tasks among staff will significantly change.

d. Variations among school capabilities and needs will produce alternative roles for school staff.

e. Children's school experiences will differ greatly from those of their counterparts in traditional school and will include: a greater proportion of time spent in individualized study assignments, independent study, and self-directed activities; interage grouping; flexible scheduling; individualized marking and reporting systems.

f. Guidelines for dissemination and further inservice training for differentiated roles of elementary school staff will be developed.

g. Guidelines will be developed to enable school boards to establish criteria for: induction of staff; continuing appointment; differentiated pay schedules; promotion.

Needless to say, the school setting in which these changes will take place will represent fundamental departures from the traditional school which features self-contained classrooms. To determine how effective these changes in school organization and staff roles are in the achievement of better practices in the individualization of instruction for pupils and in the induction of school personnel is the essence of this proposal.

Operational Plans

As has been previously discussed, the magnitude and complexity of the changes sought for in this proposal, require long-range planning. While it is recognized that unanticipated events can influence the rate of progress achieved,[2] the following four-year plan (1969-1973) represents the best estimate that can be made at the present time.

Timing and Sequence of Activities

1968-69 Completed: Study and development of Individualization and Induction themes. Review of research literature; visits to model operations. Planning and conducting Pilot Study of Problems and Practices of Beginning Teachers using interview techniques. Disseminating information through school visits, conferences, workshops, reports, newsletter. Preparation of training guides and materials. Identifying sources of outside assistance. Identifying area Pilot Schools (Cassadaga Valley, Southwestern).

1969-70 In-Process: Plan and conduct special summer workshops (1969) on Individualization of Instruction for staff members of initial and prospective Pilot Schools. Disseminate information about Fredonia model, Pupil Oriented and Individualized System of Education (POISE Model).

1969-70 In-Process: Implement Model in Pilot Schools: Continued development of training materials. On-the-job training for elementary staff in Pilot Schools by project

Staffing, Content, Organization of Components

Staff commitments: Model Program under co-directors Dr. John B. Bouchard, Professor of Education, Dr. Kenneth Nelson, Director of Teacher Education Center, SUNY College at Fredonia. Six staff members assist in Pilot Schools and Center Programs. (Note-additional staff under recruitment).

Content: On-the-job training in Pilot Schools; Inservice Training Centers; Two week graduate credit summer session workshops on Individualization and Induction themes; Preschool workshops related to essentials of POISE Model.

Pupil appraisal, assignment and reporting system
Flexible scheduling
Differentiated staff roles
Curriculum decision making
Individualized instruction
Use of space and facilities
Community-school relationships

Nature and extent of Inservice Program: Pilot Schools on-the-job training. Project staff available ½ day per week to each Pilot School. Seek to develop special interest and specialization among Project Staff. Increase time to

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[2] Note: Enhanced and accelerated plans for the proposal have been prepared in the event that an EPDA Proposal, An Inservice Training Model for Staff Roles in POISE Schools, is funded (See EPDA Proposal for details).

Timing and Sequence of Activities

staff. Begin the development of monitoring systems in the Pilot Schools. Establish working relationship with national and retional labs. Integrate with other funded projects. Establish working relationships with New York State Education Department to share data relating to possible changes in certification and long range development of performance criteria for school staff. Analyze, summarize data from Pilot Study of Induction; prepare and distribute report. Plan and conduct Comprehensive Area Study of Induction (Spring, 1970). Organize Inservice Training and Dissemination Centers. Survey area schools to establish priorities for programs at Centers. Arrange and conduct seven programs related to POISE Model at each Center. Increase variability among Pilot Schools by implementing POISE in large suburban school system (Williamsville, Erie County).

Summer 1970: Analyze data from Area Interview Study of Induction Problems and Practices of Beginning Teachers. Prepare and disseminate report. Analyze data from monitoring instruments; prepare tentative guidelines for alternative approaches to implementing POISE Model; prepare training materials. Plan for two-week summer session credit workshop on Individualization of Instruction, Induction for staff selected from Pilot Schools. Plan with area school representatives seven inservice, non-credit programs to be conducted at the three Dissemination Centers during 1970-71

Staffing, Content, Organization of Components

each Pilot School as additional staff recruited. Begin special studies to include: Model for Student Teaching under direction of Mr. Driscoll; Pilot Study of Supervisory Practices in Induction of Beginning Teachers under direction of Dr. Bouchard.

Summer Sessions: 1970, 1971, 1972
Project staff and special outside consultants offer two-week graduate credit summer session workshops on Individualization and Induction themes. Relate to other efforts such as Dropout Study; Student Teaching, Participants-selected personnel from present and prospective Pilot Schools.

Center Inservice Training Programs: Fall semesters 1970, 1971, 1972.
Seven two-hour noncredit programs at each center. (Be prepared to offer credit program if staffing resources permit; increase meeting time and content to meet credit requirements). Use Project staff, staff from Pilot Schools, selected outside consultants.

Preschool Workshops: 1970, 1971, 1972
One five day workshop for one prospective Pilot School. Use project staff and selected personnel from initial Pilot Schools. Stress reorganization, scheduling, individualization, getting programs underway.

Timing and Sequence of Activities

school year. Plan for and provide, using project staff and selected team leaders from initial Pilot Schools, one five-day preschool workshop for one additional Pilot School.

School year 1970-71: Continue on-the-job training for implementing POISE Model in initial Pilot schools; add one additional Pilot. Apply revised monitoring instruments; continue preparation of training for Centers. Conduct seven inservice noncredit programs at each Dissemination center.

Summer 1971: Continued study of data from the Pilot Schools. Revisions of monitoring instruments. Continued development of alternative approaches to implementing essential components of the POISE Model. Prepare and distribute reports of progress. Plan for two-week summer session credit workshop on individualization of Instruction for staff selected from Pilot Schools. Plan for seven noncredit; inservice programs for Dissemination Centers. Plan, and provide using project staff and selected personnel from initial Pilot School, one five day, preschool workshop for one additional Pilot School.

School year 1971-72: Maintain same Pilot and Center program and activities as 1970-71. Review progress made with monitoring and evaluative instruments with project staff. Revise and improve monitoring and evaluative instruments and procedures. Gather data and reports from three original and two new Pilot Schools. Prepare reports for alternative means of implementing POISE Model. At end of year, withdraw project staff from three initial Pilot Schools; continue to supply consultative service on request.

Staffing, Content, Organization of Components

Materials: Learning materials, monitoring instruments and procedures, alternative means of implementing essential components of POISE Model from Pilot Schools. Materials, research findings from national and regional labs, especially Center for Cognitive Learning at University of Wisconsin; Center for Advanced Study of Educational Administration at University of Oregon; Learning Research and Development Center at the University of Pittsburgh. Professional texts, commercial curriculum materials. Micro-teaching and minicourse materials from Far West Lab at Berkley, California; Resources of Library at Fredonia including: dial access system; television studio; independent study laboratory; graphics laboratory. Special assistance and consultative service from Instruction Resources Center Director, Dr. Robert Diamond and staff.

Timing and Sequence of Activities

Summer 1972: Same as 1971.

School year 1972=73: Continue as in 1971-72 with Pilot and Center Programs, collect data in all schools with revised monitoring and evaluative instruments and procedures.

Summer 1973: Evaluate progress to date; prepare reports for dissemination.

The Pilot Schools

The Pilot Schools presently identified in the project have already made major commitments in their efforts to implement the POISE Model. These commitments include fundamental school reorganization and reallocation of such resources as staff, facilities, instructional materials and equipment. It is far too early in the implementation of the POISE Model to estimate additional cost, if any, to the Pilot Schools. It should be pointed out, however, that one of the basic hypotheses which influenced the development of the POISE Model is that such a facilitative environment for learning and instructional improvement can be far more realistically "sold" on the basis of reallocation of present resources rather than further inflation of school costs.

During the 1969-70 school year, the initial Pilot Schools will require continuing in-depth support from members of the project staff and outside consultants in the implementation of the POISE Model. Throughout this first year of operation, special efforts will be directed toward the development of: on-the-job training experiences for the elementary school staffs; guidelines for implementing selected components of the Model; monitoring instruments and procedures; training materials and procedures. Information gained from the pilot schools, knowledge from the literature and other exemplary practices; and special outside consultants, will be used in three geographic centers (Fredonia, Jamestown, Olean) for wider dissemination among area elementary teachers and to field test the developing in-service training program. The following is an approximate summary of the personnel being served directly and indirectly in the Pilot Schools during 1969-70.

School	Pupil Enrollment	El. Staff (K-6)	Admin. and Sup. Personnel
Cassadaga Valley	976	49	3
Southwestern	80	5	1
Williamsville	5,720	243	20

Estimates of elementary personnel to be served by the Dissemination Centers during 1969-70 are as follows:

Center	No. Schools	No. El. Teachers Each School	No. El. Adm. or Sup. Each School	Total
Fredonia	5	3	1	20
Jamestown	5	3	1	20
Olean	5	3	1	20

Area School Needs

Educational personnel to be trained (Elementary classroom teachers; supervisors; administrators; instructional team leaders; special elementary staff such as art, music, physical education. Student teachers and paraprofessionals will also receive in-service training but are not included below).

Prospective Pilot Schools - Each Year

No. Schools	Each School No. Prospective Teachers	Each School No. El. Prin. or Super.	No. El. Personnel Trained Each Year 1970-71	1971-72	1972-73	Total
1	12	1	13	13	13	52

Estimated Summary of El. Personnel* to be Trained at Center

Center	No. Schools	No. El. Tchrs. Each School	No. El. Adm. or Sup. Each School	Total El. Personnel Trained Each Year 1970-1	1971-2	1972-3	Total
Fredonia	5	4	1	25	25	25	75
Jamestown	5	4	1	25	25	25	75
Olean	5	4	1	25	25	25	75
							225

School Censur Data, Chautauqua and Cattaraugus County

Total Enrollments Chautauqua-Cattaraugus County Schools (approx.)		Type	School Systems in Chautauqua Co.	Cattaraugus Co.
Public School		Central Rural	15	12
(K-12)	53,000	City	2	2
Parochial	7,000	Village	1	-
Total	60,000	Indep. Superintendency	1	-
Elementary	30,000	Parochial	11	10
			30	24

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*In addition to serving In-Service Training and Dissemination functions, the Centers will serve as means for identifying prospective Pilot Schools.

It is estimated that the elementary enrollment in the Pilot Schools will increase from 1,100 in the initial Pilot Schools in September, 1969 to about 7,000 pupils in Spring, 1970 and thereafter remain relatively constant for the duration of the project (1969-73). Target population is the 36,000 elementary pupils served by the project. Included is a high proportion of rural, poor, educationally disadvantaged children among the 30,000 pupil elementary school enrollment of Chautauqua and Cattaraugus Counties.

While children in the Pilot Schools will be most directly affected, dissemination from the Centers is designed to ultimately reach the area's entire school population.

Variations among Initial Pilot Schools

Substantial differences exist among the initial Pilot Schools as to such factors as: location of schools; size of district; number of pupils enrolled; nature of school facilities; level of financial support. It is anticipated that on-the-job training and monitoring studies carried on in these widely differing schools will provide many opportunities to identify, observe, and field test alternative approaches to the implementation of components of POISE Model. The implications are obvious for enrichment of the In-Service Training and Dissemination Model. A brief description of major variations among the Pilot Schools follows:

Cassadaga Valley Central Schools

This is a Rural Central School System serving one of the largest geographic school districts in New York State. Transportation of pupils, as a consequence, is a major problem. The district is poor and requires a high level of State Aid (.80) although substantial local effort to support schools is indicated by a local true tax ratio of $22.45. Per pupil support is $928.02. All of the four Elementary Schools of the Cassadaga Valley Central School System are participating as Pilot Schools for the POISE Model. These schools serve some 1,000 elementary pupils taught by fifty elementary staff members. Student teachers and paraprofessionals are assigned to the various instructional teams in the four schools (K-6). Among the initial Pilot Schools, the Cassadaga System is undoubtedly the most representative of the majority of the Central Schools of the Chautauqua-Cattaraugus County Area: poor, rural, and serving a relatively small school population sparsely distributed over a large area.

The Glidden Elementary School of the Southwestern Central School System

This is a small, single remodeled plant serving as a neighborhood school in the suburban area of a small city (Jamestown) to some 80 elementary pupils (Grades 2-4). Its single instructional unit is served by a combination principal-team leader, one experienced, and two beginning teachers. A student teacher and a paraprofessional are assigned to the instructional team. Children served come from more affluent homes than their Cassadaga counterparts and their parents have displayed, over the years, substantial interest in the school through participation in parent-teacher programs provided by the school.

The Williamsville Central School System

This is a large school system serving an affluent suburb of a large city, Buffalo, New York. The elementary population (K-6) along of this system (5,720) is larger than the total school population (K-12) of any school system in the Chautauqua-Cattaraugus County Area save the city of Jamestown (K-12 enrollment: 8,600). The Williamsville School System has, for many years, enjoyed a reputation for willingness to investigate innovative practices in education. During recent years, considerable attention has been directed toward micro-teaching, team teaching, individualization of instruction, use of paraprofessionals, and attempts to differentiate staff roles. More than the other Pilot Schools, Williamsville has central staff resources and personnel assigned to curriculum improvement and research and development activities. The extent to which Williamsville Schools will participate in the POISE Model in 1969-70 has been under discussion for several months and will be negotiated soon.

Personnel and Budget Requirements

Personnel Requirements 1969-70 Planning, directing, supervising, evaluating progress of POISE Model		Personnel Requirements Each year 1970-73	
Principal Investigator:	½ FTE	Same	½ FTE
Director, TERC:	½ FTE	Same	½ FTE
Pilot Schools			
Preparation of training materials, monitoring instruments for components of POISE Model:	1 FTE	Add one staff member to increase services	2 FTE
Visitations, consultative services; ½ day per week at each of nine Pilot School Plants (Part-time service of five TERC Staff)	1 FTE	Add one staff member to increase services	2 FTE
Evaluation of student teaching (Cassadaga & Glidden; Williamsville)	2 FTE	Same	2 FTE
Preschool opening 5 day workshop for one additional Pilot School; two outside consultants with experience in Individualization Models; three unit leaders from initial Pilot Schools (see Supporting Personnel)			
Release time for Pilot School Personnel to assist Project staff (based on one paraprofessional to each instructional unit) (See Supporting Services)			
Dissemination Centers			
Programs: 2 per month for 5 months at each of three centers.	½ FTE	Increase to cover full year; add one staff member.	1 FTE
Planning, preparation, evaluating, reporting	½ FTE	Increase to cover full year; add one staff member.	1 FTE
Total TERC Staff, 1969-70	7 FTE	Total TERC Staff Each Year	9 FTE

Summer Session, 1970 eight weeks		Personnel Requirements Each year 1970-73	
Two week summer session course on Individualization and Induction. Part time use of TERC Staff. Use of outside consultants (See Supporting Services)			
Evaluation of progress 1969-70; preparation of reports, planning operations for 1970-71; revision of monitoring instruments.	3 FTE	Add one staff member	4 FTE
Principal Investigator	1 FTE		1 FTE
Director TERC	½ FTE		½ FTE
Total TERC Staff SS. 1970	4½ FTE	Total TERC Staff each SS	5½ FTE

Supporting Services 1969-70	Supporting Services Each year 1970-1973
Release time, Pilot School Staff; equivalent of 1 paraprofessional to 13 instructional units (9 at 2,000, 4 at 1,000)	Full year increase by two units
Three staff members from initial Pilot Schools for five day pre-school opening workshop for one additional Pilot School (15 days)	same
Five outside consultants on Individualization and Induction for Center and Summer Programs at three days each (15 days)	same

Relation of this Project to other Projects in and outside the TERC Program

The close relationship has been established throughout this proposal between efforts to develop a facilitative environment for individualization of instruction in the public school and the TERC concern for more effective models of teacher-induction. The emerging programs in the Pilot Schools clearly provide both challenge and opportunity for study and evaluation of the development of new teachers, student teachers, and other staff personnel in a milieu fundamentally different from that of the traditional school.

Considerable effort has also been directed, in the interest of economy and efficiency of operation, toward the integration of TERC activities with those of other area educational agencies.

Excellent liaison is maintained between area schools, through the Southwestern New York Association for the Improvement of Instruction and other educational agencies such as:

Institutions of higher learning: State University College at Fredonia; St. Bonaventure University; Jamestown Community College.

As a result of such liaison, additional training will be provided for paraprofessionals with the long term goal of college courses and career planning through the offering of courses specially designed for paraprofessionals at Jamestown Community College.

Other Cooperating area agencies: Boards of Cooperative Educational Services (BOCES) of Chautauqua and Cattaraugus Counties; Project Innovation; Western New York School Development Council; Professional Organizations (Chief School Officers, School Principals).

Close coolaboration is maintained among all the groups indicated above in such activities as: sharing data; sharing information on innovative school practices; serving as consultants; sponsoring inservice education programs; sponsoring special events.

Related Federal Programs

A USOE ESEA Title III Grant, Project Classroom Help, ($500,000) was awarded to the Chautauqua County BOCES for the period 1966-70. A related grant was awarded the Cattaraugus County BOCES for the same period. These grants undeniably created greater receptivity to innovation among area schools through the provision of inservice workshops in the school subjects and in new techniques and materials of instruction. An outstanding feature of this grant was the creation of an Instructional Resources Center and delivery system for supplying area schools, on a daily basis, with a wide variety of curriculum enrichment materials. As a result of this project, dramatic increases have been noted in the use of such materials by area schools.

Resources and activities of the proposed Model Inservice Training and Dissemination Program can be integrated with several other specially funded projects. These include:

1. A State Education Department Sponsored EPDA Project for Chautauqua County Schools (Bemus Point, Fredonia, Dunkirk, Mayville, Cassadaga, Southwestern), Improving the Learning Climate for Children Through the Use of Paraprofessionals ($73,455)
2. A similar State Education Department Sponsored EPDA Project on Differentiated Staff Training ($67,000) (Project directed by the State University College at Buffalo and includes the Erie County School Districts of Lackawanna and Williamsville)

3. A USOE Grant to the SUNY College at Fredonia, Inservice Curriculum Change Agents ($66,863). (Participating schools include: Fredonia, Mayville, Dunkirk, Randolph, Bemus Point, Ripley, Jamestown, Southwestern, Falconer, Forestville and Westfield).
4. A USOE Title VIII Grant to Chautauqua County Board of Cooperative Educational Services, Potential Dropout Recognition and Prevention Program ($419,994). (Participating schools include: Bemus Point; Cassadaga Valley; Dunkirk; Falconer; Mayville; Ripley)

It is readily apparent that many inservice training activities appropriate to the above special programs will also be appropriate for this proposed inservice training model. These include workshops and special consultants on such topics as: individualizing instruction, differentiated staff roles; remediation of learning difficulties. Close liaison has been maintained between staff of this proposal and staff of the special programs throughout the development of the grants described above. Indeed, several members of the SWNY Association and Teacher Education Research Center Staff assisted in the preparation of one or more of the above grant requests.

Time Schedule - Anticipated Outcomes

While a sequence of events has previously been presented in this proposal under the category, Operational Plans, it was essential to the planning to establish projected time schedules for the attainment of various goals. Considerable direction as to how progress will be appraised is contained in the Attachment of this Report. (See pages 7-17)

Time	Anticipated Stage of Development
1969-70 School Year	Nine Pilot Schools (from Cassadaga, Southwestern and Williamsville) will implement the POISE Model. Progress will be made principally in such components as the following: formation of ungraded pool of pupils; team-teaching; the formation of curriculum decision making teams; informing other school staff and parents about the program. Some progress will be made in the development of an individualized system of pupil appraisal and reporting. Individualization efforts will be largely restricted to reading and the language arts. Differentiated staff roles will begin to emerge. Student teachers will be assigned to the instructional teams in the Pilot Schools; preliminary data will be gathered concerning their performance; a tentative Model for Induction of Student Teachers, will be prepared. Some progress will be made in the development of training materials, progress reports in the Pilot Schools. The three Dissemination Centers will be established and 7-10 programs offered to area teachers. Feedback concerning the Center Programs will be gathered and used to plan 1970-71 Center Programs.
Summer 1970	Selected personnel from the Pilot Schools will gain increased knowledge and competence in Individualization of Instruction and Induction of Teachers.

Time	Anticipated Stage of Development
	Center Programs for the 1970-71 School year will be planned and adjusted to emerging needs of area personnel. Progress will be made in the development of initial monitoring instruments for use in the Pilot Schools. Initial instruments will be directed toward the components of the POISE Model identified as most critical to its continued development.
1970-71 School Year	More sophisticated and rapid growth will be achieved in the nine initial Pilot Schools in implementing POISE Models. Increased individualization of instruction will occur. Application of monitoring instruments will be increased; collection of data will be increased. Increased productivity of training materials will be noted. An improved Model for Student Teaching will be implemented and data collected. Tentative Models for Differentiated Staff Roles will be developed and evaluated. More sophisticated programs will be provided at Centers.
1971 Summer Session	An increased cadre of area school personnel familiar with POISE Model will be developed. One additional Pilot School will be prepared for September, 1971. Study and revision of monitoring instruments, training materials, developing Models, will be accomplished.

Time	Anticipated Stage of Development
1971-72 School Year	Field testing of revised monitoring materials and Models will be implemented. Collection, evaluation of data, will lead toward improved revisions of monitoring instruments. Improvements will be achieved in Models for Student Teaching; other Models for Induction of Staff Personnel. More sophisticated development of all components of POISE Model will be continued. Continued improvement of Center Programs will be achieved.
1972 Summer Session	Same as 1971
1972-73 School Year	Accelerated development of Pilot Schools will be undertaken as required; gradual withdrawal of TERC Staff from development activities will take place. Increased attention of TERC Staff will be directed to collection of data with revised monitoring instruments. Final revisions of Models for Induction will be tested. Withdrawal of Project Staff on formal consultative basis to Pilot Schools will be achieved at end of year. Staff members of Pilot Schools will serve in other schools as consultants and resource staff in further dissemination of POISE Model.
1973 Summer Session	Analysis of data will be completed. Preparation and dissemination of final reports will be accomplished by the end of the summer session. Models for Induction of Staff Personnel, guidelines, training materials, evaluative procedures and instruments will be made available to all interested area schools.

ATTACHMENTS

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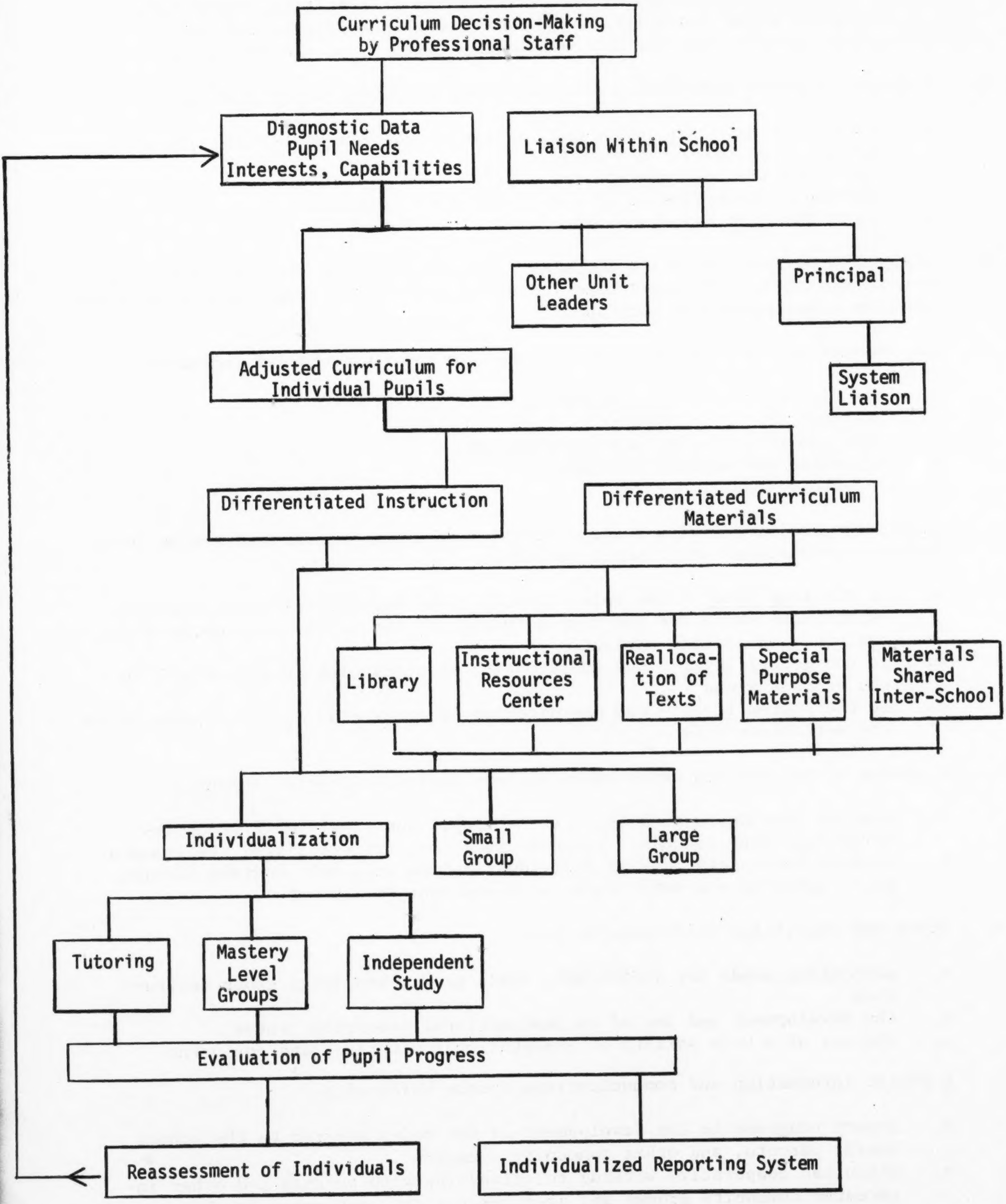
Essential Components of the Fredonia Model for Pupil-Oriented and Individualized System of Education (POISE Model)

It is important to recognize that the POISE Model is in the developmental stage; however, it does appear possible to indicate, at the present time, those components which appear to be essential to the successful operation of the model. Such components include, but are not necessarily limited to, the following:

1. A system of pupil appraisal, assignment, and reporting which provides:
   - a. diagnostic data concerning capabilities, achievement levels, interests and needs of individual pupils
   - b. individualized assignments for pupils
   - c. continuous reassessment of individual pupil progress
   - d. individualized reporting procedures
2. Assignment of learners to an ungraded instructional pool (75-150 pupils) to provide flexibility in scheduling individualized, small group, and large group learning experiences for such pupils.
3. Development of differentiated staff roles for school personnel including:
   - a. administrative and supervisory staff
   - b. instructional team leaders
   - c. team teachers (beginning; experienced)
   - d. internees and student teachers
   - e. paraprofessionals
4. Curriculum decision making responsibilities at team, school, and system level for the professional staff which includes:
   - a. at the team level - the selection and assignment of all pupil learning experiences which are the responsibility of the school (including skill, content, and special subjects)
   - b. at the school level - the coordination of curriculum decisions made by the various teams
   - c. at the system level - the coordination of curriculum decisions made among the various schools
5. A system of instruction which seeks optimum individualization through:
   - a. various procedures such as: teacher-pupil tutoring; small group instruction; peer teaching; independent study; differentiated assignments
   - b. various interpretations of individualization such as: mastery levels; pupil interest and motivation; acceleration; enrichment
6. Space and facilities which provide for:
   - a. scheduling needs for individual, small group, and large group instruction
   - b. the development and use of an instructional resources center
   - c. the use of a wide variety of instructional materials and equipment
7. A public information and communications system which will:
   - a. report progress in the development of the model program to the school board, parents, and other community agencies
   - b. establish cooperative working relationships with parents and other interested community groups and agencies for the continuous development of the model program

Paradigm of Pupil Oriented and Individualized System of Education (POISE Model)


Curriculum Decision-Making by Professional Staff
Diagnostic Data Pupil Needs Interests, Capabilities
Liaison Within School
Other Unit Leaders
Principal
System Liaison
Adjusted Curriculum for Individual Pupils
Differentiated Instruction
Differentiated Curriculum Materials
Library
Instructional Resources Center
Realloca-tion of Texts
Special Purpose Materials
Materials Shared Inter-School
Individualization
Small Group
Large Group
Tutoring
Mastery Level Groups
Independent Study
Evaluation of Pupil Progress
Reassessment of Individuals
Individualized Reporting System

Census Data taken from the 1967 County and City Book (1960 Census)

Category	Cattaraugus County	Chautauqua County	New York State	United States
Population				
1. Total Population	80,187	145,377		
2. Population Rank	375	216		
3. Population/Sq. Mi.	60	135		
4. Population Increase (1950-60)	12.5%	11.0%		
(1960-65)	4.8%	4.0%		
5. Urban Population	40.7%	57.1%	85.4%	
6. Negro Population	.6%	.9%	8.4%	
7. Foreign Stock Population	17.2%	27.0%	38.6%	
8. Population 65 yrs. old and older	11.6%	12.2%	10.1%	
Education				
Persons 25 yrs. old and older ---				
9. Median School yrs. Completed	10.7 yrs.	10.5 yrs.	10.7 yrs.	10.6 yrs.
10. Completed less than 5 yrs. of School	3.6%	4.7%	7.8%	8.4%
11. Completed High School or more	39.3%	38.2%	40.9%	41.1%
12. Persons 5 to 34 yrs. old, School Enrollment	20,983	35,119	3,801,553	
Employment 1960				
13. Total	28,881	53,925	6,599,462	
14. In Manufacturing	32.5%	40.5%	28.6%	27.1%
15. White Collar	36.8%	37.3%	46.9%	41.1%
16. Number of Families	19,931	38,303	4,336,041	45,128,393
17. Aggregate Income in 1959 (Millions of Dollars)	132	259	37,530	331,665
18. Median Income per Family	$5,315	$5,626	$6,371	$5,660
19. Under $3,000 (families)	18.5%	17.1%	13.8%	21.4%
20. $10,000 and over (families)	10.5%	10.6%	19.9%	15.1%
21. Public Assistance Recipients 1964	2,723	4,202		
22. General Expenditure for Education ($1,000)	11,551	20,750		

Essential Data for the EPDA Proposal submitted by a Consortium of Eight Local Educational Agencies

1. Number of elementary pupils in the Consortium 9042

2. Elementary Teachers

Total number in eight school districts 423

College Preparation:

	Number	%
% with less than B.S.	44	10%
% with B.S.	151	36%
% with B.S. + additional hours	115	27%
% with B.S. + 30 hours	25	6%
% with B.S. + more than 30 hours	11	3%
% with Masters	39	9%
% with Masters + additional hours	38	9%
TOTAL	423	100%

Certification:

Certified	371	87%
3 year (Normal School)	37	9%
Emergency	3	1%
Other	12	3%
TOTAL	423	100%

3. Estimated percentage of the number of years experience of the elementary staff in the eight school systems.

1 year or less	49	12%
1 year - 5 years	94	22%
5 years - 10 years	84	20%
More than 10 years	196	46%
TOTAL	423	100%

4. Estimated percentage of elementary staff involved in in-service training.

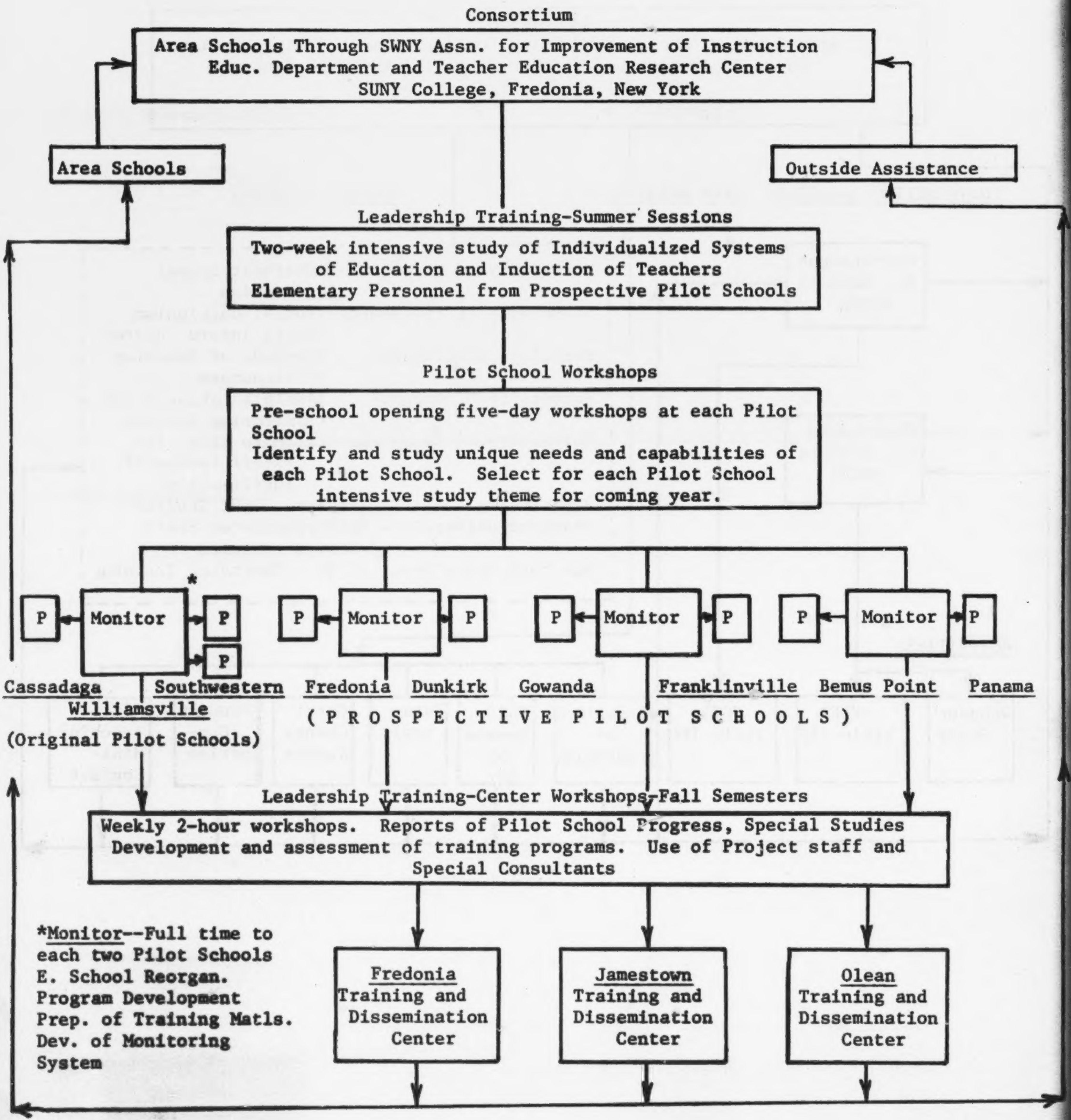
College credit courses and workshops	94	22%
College organized non-credit workshop	5	1%
Locally organized study groups or workshops:		
1. In-service credit	19	4%
2. No credit	11	3%
3. Other	4	1%
TOTAL	133	31%

5. Median percentage of total training budget coming from outside sources:

	1968-69	1969-70
State	66.5%	63%
Federal	1%	1%
Other	32.5%	36%

Consortium for the Study of Induction of Teachers and Individualization of Instruction

TRAINING AND DISSEMINATION MODEL


Consortium
Area Schools Through SWNY Assn. for Improvement of Instruction
Educ. Department and Teacher Education Research Center
SUNY College, Fredonia, New York
Area Schools
Outside Assistance
Leadership Training-Summer Sessions
Two-week intensive study of Individualized Systems of Education and Induction of Teachers
Elementary Personnel from Prospective Pilot Schools
Pilot School Workshops
Pre-school opening five-day workshops at each Pilot School
Identify and study unique needs and capabilities of each Pilot School. Select for each Pilot School intensive study theme for coming year.
P
Monitor
*
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Monitor
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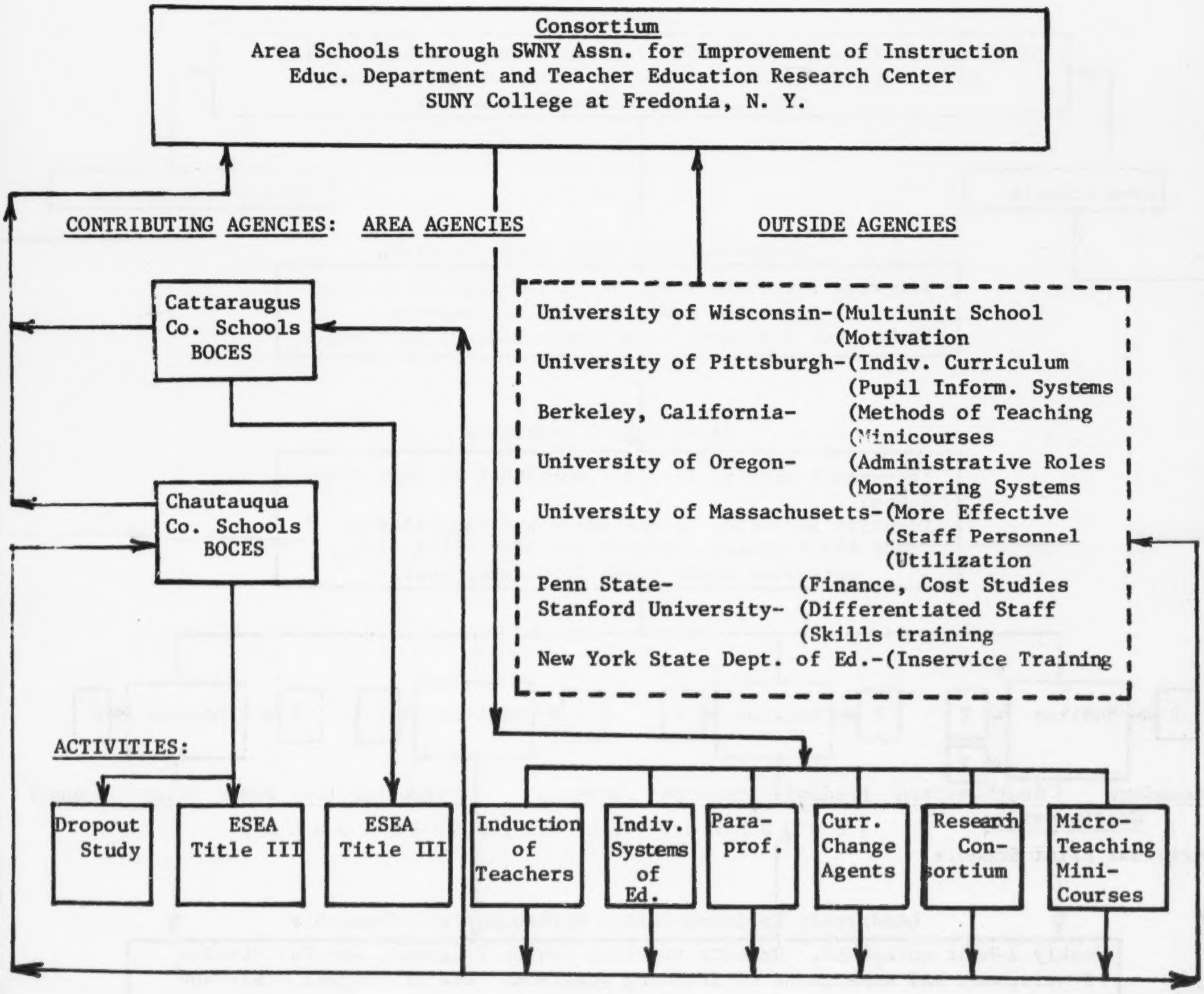
Cassadaga
Southwestern
Williamsville
(Original Pilot Schools)
Fredonia
Dunkirk
Gowanda
Franklinville
Bemus Point
Panama
(PROSPECTIVE PILOT SCHOOLS)
Leadership Training-Center Workshops-Fall Semesters
Weekly 2-hour workshops. Reports of Pilot School Progress, Special Studies
Development and assessment of training programs. Use of Project staff and Special Consultants
Fredonia Training and Dissemination Center
Jamestown Training and Dissemination Center
Olean Training and Dissemination Center

*Monitor--Full time to
each two Pilot Schools
E. School Reorgan.
Program Development
Prep. of Training Matls.
Dev. of Monitoring
System

Consortium for the Study of Induction of Teaching and Individualized Systems of Education

Collaboration Model


Consortium
Area Schools through SWNY Assn. for Improvement of Instruction
Educ. Department and Teacher Education Research Center
SUNY College at Fredonia, N. Y.
CONTRIBUTING AGENCIES:
AREA AGENCIES
OUTSIDE AGENCIES
Cattaraugus Co. Schools BOCES
Chautauqua Co. Schools BOCES
University of Wisconsin-(Multiunit School
(Motivation
University of Pittsburgh-(Indiv. Curriculum
(Pupil Inform. Systems
Berkeley, California- (Methods of Teaching
(Minicourses
University of Oregon- (Administrative Roles
(Monitoring Systems
University of Massachusetts-(More Effective
(Staff Personnel
(Utilization
Penn State- (Finance, Cost Studies
Stanford University- (Differentiated Staff
(Skills training
New York State Dept. of Ed.-(Inservice Training
ACTIVITIES:
Dropout Study
ESEA Title III
ESEA Title III
Induction of Teachers
Indiv. Systems of Ed.
Para-prof.
Curr. Change Agents
Research Consortium
Micro-Teaching Mini-Courses

Ultimate Objective: The Development of a Facilitative Environment for Induction of Staff Personnel	Suggested Evaluative Procedures and Techniques
As a result of on-the-job study and inservice training in the Pilot Schools, the facilitative environment will affect the school staff so that:	
The special contributions of each staff role to the Individualization and Induction Models will become more sharply defined. The Elementary Principal and/or Elementary Supervisor The Instructional Leader Team Teachers Special Teachers (Reading, Physical Education, Art, Music, etc.) Student Teachers Internees Paraprofessionals (Teaching Assistant, Clerical Aide, Instructional Materials Aide, Library Aide, etc.)	Observations of tasks performed. Continued study of time-task allocations associated with each position. Study of interactions among instructional team members in decision making. Study to identify the factors influencing changes in the allocation or assumption of tasks. Study to evaluate outcomes of alternative roles. Interviews of staff personnel to determine attitude toward assignment, suggestions for change. Comparative study of alternative role among various Pilot Schools.
The Instructional Team will assume responsibility for identifying and providing individualized assistance in the induction of new staff personnel.	Development and field testing tentative guidelines. Preparation and testing of final reccommendations.
Each inductee - professional, preprofessional, and paraprofessional - will be placed as a participating member on the instructional team.	Study and identify special interests and competencies of experienced members of the instructional team of inductees.
Each inductee will become familiar with the responsibilities and assignments of all members of the instructional team.	Conduct a series of interviews with inductees to determine progress in familiarization with his assignments and role.
Each inductee will participate in reviews of the outcomes of assignments and task allocations by the instructional team.	Study advantages of rotating responsibilities of experienced staff members for special needs and interests of inductees.
Each inductee will participate in instructional team discussion of alternative routes to more effective performance of tasks.	Interview experienced staff and inductees for attitudes toward assistance provided.

Ultimate Objective: The Development of a Facilitative Environment for Induction of Staff Personnel

Each inductee will be provided a variety of opportunities to identify his strengths, weaknesses and interests as they relate to the total responsibilities of the instructional team.

The professional staff will develop and recommend criteria for such special induction problems as:

Reappointment of paraprofessionals.
Successful completion of student teaching experiences (or internships).
Successful completion of probationary teaching period.
Requirements for permanent appointment.
Requirements for promotion to team leader.
Requirements for promotion to administrative and/or supervisory assignments.

Suggested Evaluative Procedures and Techniques

Study records of instructional team plans, reassignments, reviews.

Study time-task assignments, logs and diaries of inductees, observations of performance.

Interview inductees, experienced staff members as to "best sources" of help for a variety of specific needs. Compare data.

Frequency studies of assistance given; received; source; nature. Compare with data from other schools.

Study of degree of familiarization of staff personnel with proposal criteria.

Tentative recommendations made; studied; and revised.

Revised guidelines field tested; data analyzed in terms of criteria.

Recommendations made to: public school administrators; teacher association; college officials.

Board policy statements.
Teacher Association approval.
College policy statements.

Ultimate Objective: Improvement of Instruction for Children	Suggested Evaluative Techniques and Procedures
As a result of participation by Elementary School Personnel in Inservice Training:	
More children will receive individualized attention during the school day from teachers, student teachers, paraprofessionals, and peers.	Observation of individual pupil contacts during established time intervals for teachers, student teachers, paraprofessionals and peers.
More children will receive individualized assignments.	Collect and analyze pupil assignments.
More children will engage in pupil-teacher choice of independent study.	
More children will engage in self-chosen learning activities.	
More children will say they like school.	Attitude scales and studies for samples of school population.
More children will receive individualized reports of progress.	Examination of pupil reports.
Pupils' school attendance will improve.	Examination of attendance records.
Pupil "deadtime" (time wasted between assignments) will be reduced.	
Pupil abuse of school property will decrease.	Records of disciplinary action, truancy, property damage.
More children will progress in learning activities at their own rate.	Studies relating standardized measures of achievement with grade level of assigned learning activities and/or materials.

Ultimate Objective: The Development of a Facilitative Environment for Learning	Suggested Evaluative Procedures and Techniques
As a result of on-the-job study and inservice training in Pilot Schools of the POISE Model, the facilitative environment will affect the school staff so that:	

Ultimate Objective: The Development of a Facilitative Environment for Learning	Suggested Evaluative Procedures and Techniques
Responsibilities of administrators, teachers, and paraprofessionals will differ greatly from those of comparable personnel in traditional schools.	Comparative study of observed roles in Pilot Schools; conventional schools.
New staff roles will be identified.	Comparative studies of new and traditional roles to identify new roles, new positions.
Allocation of time and tasks among staff will significantly change.	Present and future studies of time-task allocations through observations; logs; daily diaries.
Variations among school capabilities and needs will produce alternative roles for school staff.	Studies comparing roles among Pilot Schools.
Guidelines for dissemination and further inservice training for differentiated roles of elementary school staff will be developed.	Case studies of developing changes; preparation of tentative guidelines; field testing recommendations.
Guidelines will be developed to enable school boards to establish criteria for: induction of staff; continuing appointment; differentiated pay schedules; promotion.	Preparation of recommendations for teacher association - school board negotiations. Adoption of recommendations by school board.

Objectives Related to Model Inservice Training Program	Suggested Evaluative Procedures and Techniques
As a result of the inservice training: all area schools will receive information about project activities.	Study mail records of SWNY Assn. and TERC.
Some area schools will identify potential leadership personnel from their elementary school staffs to participate in the inservice training program.	Record requests for participation by school.
Elementary school personnel from area schools will participate in the Center, Summer session, and preschool inservice training programs.	Attendance records.

Objectives Related to Model Inservice Training Program	Suggested Evaluative Procedures and Techniques
Increased requests for participation in the inservice training programs will be received after the initial year of operation.	Comparison of present, past records of requests.
Studies of on-the-job performance in the Pilot Schools will produce alternative training possibilities for: Differentiating staff roles Curriculum decision-making Individualization of instruction Use of instructional materials Use of space and facilities Flexible scheduling Diagnosing pupil capabilities and needs Individualizing reporting systems Establishing school-community relationships	Case studies based on school records; observations of performance; interview procedures; records of utilization of materials; records of time-space utilization of plant facilities; studies of community attitudes toward school.
Evaluations of training sessions will reveal that appropriate changes have been made in the training provided to accommodate to the needs, capabilities and interests of participants.	Records of discussion and evaluation of progress by participants; surveys of participants needs; interests, capabilities; attitude questionnaires; attendance records; financial data re. costs; travel; use of consultants; records of requests; case studies of developments in new Pilot Schools.
Most participants will indicate favorable attitudes toward the inservice training program.	
Time and cost study will support the efficiency and economy of the inservice training model.	
More area schools will request assistance in initiating the POISE Model.	

Objective - Institutional and Systemic Changes	Suggested Evaluative Procedures and Techniques
As a result of inservice training of staff, Pilot Schools will:	

Objective - Institutional and Systemic Changes	Suggested Evaluative Procedures and Techniques
During the initial year of operation (1969-70), provide evidence of success in implementing most of the following features of the Pupil Oriented and Individualized System of Education Model:	
A system of pupil appraisal, assignment and reporting which provides:	
diagnostic data concerning capabilities, achievement levels, interests and needs of individual pupils	Studies and analyses of individual pupil folders for data concerning capabilities, interests, needs.
individualized assignments for pupils	Studies of extent of use of data and relationship to pupil assignments.
continuous reassessment of individual pupil progress	Sampling studies of reports of pupil progress.
individualized reporting procedures	Records of observation of on-the-job behaviors; logs and diaries of activities; studies of instructional team staff assignments.
	Studies of records of meetings and curriculum decisions made within instructional units; comparison with previous curriculum.
	Studies of similar records and comparisons among schools.
Assignment of learners to an ungraded instructional pool (75-150 pupils) to provide flexibility in scheduling individualized, small group and large group learning experiences for such pupils.	Frequency studies within time interval of teacher-pupil tutoring; small group instruction; independent study; differentiated pupil assignments. Comparison with data from non-Pilot Schools; frequency studies of use of mastery levels; pupil interest and motivation; acceleration; enrichment.
	Comparison with non-Pilot School studies of space and facilities utilization.

Objective - Institutional and Systemic Changes	Suggested Evaluative Procedures and Techniques
Development of differentiated staff roles for school personnel including: administrative and supervisory staff instructional team leaders team teachers (beginning; experienced) internees and student teachers paraprofessionals	
A public information and communications system which will: report progress in the development of the model program to the school board, parents, and other community agencies establish cooperative working relationships with parents and other interested community groups and agencies for the continuous development of the model program	Records of school releases, meetings, special information programs. Records of press releases, publicity from outside sources. Records of establishment (or continuing) formal and informal school-community study groups and advisory committees. Comparison of results among Pilot Schools Comparison of present and previous results for given Pilot Schools.
During the initial year of operation (1969-70) produce alternative approaches to the implementation of the essential components of the POISE Model which will provide guidelines for the inservice training model.	
During subsequent years of operation (1970-73) produce evidence of continuous success in the further development of the essential components of the POISE Model.	

Objectives - Goals for Participants	Suggested Evaluative Procedures and Techniques
Goals related to the development of a system of pupil appraisal, assignment and reporting.	

Objectives - Goals for Participants	Suggested Evaluative Procedures and Techniques
As a result of inservice training:	
Teachers will make weekly surveys of diagnostic data concerning individual capabilities, achievement, interests and needs.	Frequency studies of teacher utilization of data.
Teachers will make greater utilization of reference sources related to the validity, reliability, and appropriateness of diagnostic instruments and procedures.	Frequency studies of teacher utilization of basic references.
Teachers will make weekly reassessment of individual pupil progress.	Sampling of pupil assignments to observe changes.
Teachers will support, on the basis of pupil performance, decisions concerning changes (or failures to change) pupil assignments.	
Teachers will increase the number of individualized assignments made for pupils; teachers will decrease the number of class assignments.	Frequency studies of individualized, small group, large group instruction.
Teachers will increasingly use pupil-teacher and parent-teacher conferences.	Records of pupil-teacher; parent-teacher conferences; comparison with former reports; frequencies of conferences.
Teachers will increasingly use reporting procedures which provide data concerning the progress of individual children; teachers will decrease use of normative and group standards in reporting pupil progress.	
Assignment of learners to an ungraded instructional pool (75-100 pupils)	
As a result of inservice training:	
Teachers will, on a daily (or weekly) basis, participate in instructional team decisions to assign or reassign pupils to individual and/or group instruction.	Studies of records of instructional team meetings.

Objectives - Goals for Participants	Evaluative Procedures
Teachers will undertake assignments to individualized, small group, and large group instruction and report their feelings of effectiveness and/or preference for assignments.	Studies of teacher attitudes, preferences; interviews with teachers.
Development of differentiated staff roles for school personnel including: administrative and supervisory staff; instructional team leaders; experienced team teachers; internees and student-teachers; paraprofessionals*	
As a result of inservice training:	
Teaching personnel will spend more time in: diagnosis; individualizing assignments; participating on curriculum decision making teams; individualizing instruction; reporting individual pupil progress.	Observation of teacher performance. Logs and diaries of teachers.
Teaching personnel will spend less time in: preparing instructional materials; teaching self-contained classrooms; classroom management and control; completing routine reports.	Observation of administrative performance; logs and diaries of administrators.
Administrative and supervisory personnel will spend more time in: establishing liaison among the instructional teams within their schools; establishing liaison among the various schools in the system; establishing a public information and communications system.	
Administrative and supervisory personnel will spend less time in: clerical duties; office routines; plant management; scheduling.	
The professional staff will develop systematic, sequentially planned activities for the induction of: new team members; beginning teachers; student teachers; paraprofessionals.	All members of the school staff will keep representative samples of their daily activities for periodic reviews by the instructional teams.

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*Note: Paraprofessionals will receive special inservice training in a related program (See Appendix, page 39).

Objectives - Goals for Participants	Evaluative Procedures
The professional staff will recommend criteria for the following: permanent appointment of a teacher on probation; appointment of a team teacher as a unit leader; appointment of a team teacher or unit leader as an administrator or supervisor.	Tentative recommendations made; study and revision records; final recommendations for negotiations.
The school will provide information on career opportunities for all members of the school staff to include: paraprofessionals who wish to become teachers; members of the professional staff seeking promotions.	Documentary evidence of school career opportunities.
The school will develop and implement a differentiated pay schedule which will consider; among other factors (such as experience and training), the different levels of responsibilities assumed by the staff.	Revised pay schedules adopted by board.
In order to avoid a rigid hierarchy of staff utilization, the school will adopt provisions whereby contingency staff assignments may be made on an ad hoc daily basis by instructional teams.	Board statement on flexible assignment policy.
Curriculum decision responsibilities	
As a result of inservice training:	
Team leaders will, with the assistance of team teachers, select and assign all pupil learning responsibilities which are the responsibilities of the schools.	Documentary evidence of board assignment of curriculum decision-making responsibility to teachers, administrators.
School principals (or supervisors) will, with the assistance of team leaders, coordinate curriculum decisions made by the instructional teams.	Evidences of change; minutes of meetings; revised curriculums.
School principals (or supervisors) will, with the assistance of other principals, coordinate curriculum decisions made among various schools.	

Objectives - Goals for Participants	Evaluative Procedures
A system of instruction which seeks optimum individualization	
As a result of inservice training:	
Teachers will demonstrate increased skills in and use of such procedures as: tutoring; guiding-peer teaching; guiding independent study; making individualized assignments; individualizing instruction in small and large groups.	Video tape and records of performance. Records of minicourse influences. Observations of specific teaching skills.
Teachers will demonstrate increased skills in and use of various interpretations of individualization such as: mastery level instruction; pupil motivation; acceleration; enrichment.	Analyses of pupil assignment and products for indications of mastery; special motivation; means of acceleration; enrichment activities and materials.
Use of space and facilities	
As a result of inservice training:	
Teachers will demonstrate more flexibility in scheduling facilities for individualized, small group and large group instruction.	Comparison of previous and past class and pupil schedules.
Teachers will make more extensive use of the instructional materials center.	Studies of utilization of instructional materials center.
Teachers will make increased use of a wide variety of instructional materials and equipment.	Studies of utilization of instructional material.
Development of a public information and communications system	
As a result of inservice training:	
Teachers will participate more frequently with parents and community groups to report progress in the development of the POISE Model.	Records of types of groups; frequency of meetings; topics discussed; cooperative planning.
School-community groups will meet more frequently for cooperative planning of school programs.	

G. The Professional Socialization of Teachers - Paul Dommermuth

Objectives and Justification

This study of the professional training of secondary and elementary teachers will focus on the sociological aspects and influences that shape their induction into teaching. It will attempt to provide some in-depth understanding of how students assume or fail to assume a professional identity. As such, it will examine basic theoretical questions in sociology and social psychology, namely, (1) what are the sources of identity change in adult life? (2) what kinds of social structural mechanisms exist in professional training programs? and (3) how can one account for their operation? In short, the project seeks answers to questions of how socializing programs produce trainees capable of assuming professional responsibility and what the process is like which produces them.

This general statement is directly linked to sociological concerns and to the basic thrust of the Teacher Education Research Center (TERC), which is directing research and development efforts toward the improvement of the induction of teachers into the profession. From a sociological standpoint, two basic questions involved in studying the induction process are: (1) how does the development of professional commitment occur and/or is it possible to develop it without considerable experience? and, (2) what understanding of induction problems accrues from our knowledge of the pre-service training of teachers? In this sense this project will attempt to provide direct information on where induction problems arise.

At the outset the premise is made that the sources of identity change in adult life, such as those found in a number of professional training programs, are to be found in what sociologists and social psychologists term "situational adjustments." Trainees moving through professional programs encounter differing sets of social contingencies to which they must adapt constantly.

Trainees vary in the degree to which they turn themselves into the kind of individual the situation demands. In addition, it is known from a large number of occupational studies that there are gross differences between the contingencies of training programs and those of the real world of professional practice. In sociology these discrepancies produce what has been called, "reality shock."

This study assumes that widespread institutional change in education can only come from the profession itself and from the institutions which train professionals. Educational institutions are in need of a complete examination of their goals and the means by which they are to be achieved. No new commissions are needed to predict that unless serious reform and innovation are forthcoming, the number of crises in education can be expected to increase.

In this project and others (e.g., the TERC study of beginning teachers as well as the POISE Model, both of which are being coordinated with this), the aim is to examine the complex and changing issues involved in the role of today's teacher. Many attempts at innovation and reform fail simply because individuals involved in these activities refuse to examine the basic assumptions of their work. For example, the role of the teacher is defined traditionally in terms of a single teacher locked in with a class or a series of classes of about 30 students each. This sacred assumption is being studied at Fredonia (in the POISE Model) as well as in many other places. This points to the need for detailed examination of the changing role of teachers.

Operational Plans

The emphasis of the project will be on much more than how trainees acquire knowledge for teaching; special attention will be given to how students acquire (or fail to acquire) professional values, attitudes, teaching styles, and career perspectives. The study will be longitudinal and comparative. By this it is meant that a group of students will be identified and followed throughout their training and into their first jobs. It will be comparative in that many of the findings and theories derived from studies of other professional groups will be investigated in this project. It goes without saying that much educational research exists about various aspects of training teachers. These reports usually focus on the differential nature of teachers' responses to current issues in education or on developing and evaluating responses to specific changes in educational programs.

While many of these studies provide valuable evaluative or descriptive information about segmental aspects of current problems, many of them suffer from a lack of sound theoretical grounding. This lack stems from the fact that education is a highly complex process and that the behavioral disciplines of psychology, social psychology, and sociology have made only modest theoretical contributions to the professional training of teachers.

To accurately portray the process or journey of individuals through a teacher training program we will need data on what students are like when they enter professional programs. Preliminary inquiry has already indicated one important change, - the process by which students enter education is changing rapidly with the introduction of such factors as shifts to a liberal arts program, shifts in the process of choosing a major and the increase in the number of transfer students, many of whom enter the program as college juniors.

Next questions are concerned with what happens to students while they are in these training programs and what patterning of responses they develop to their training experiences. It should be mentioned here that a static training program is not assumed; personnel and policies are in a constant state of flux and it is from these sources that crucial changes often emerge. A final set of questions deal with how students use what they have acquired in teacher training programs in the early stages of their career. (This is being investigated in the study of beginning teachers by Bouchard and Hull). The ubiquitious nature of reality shock among trainees in numerous professions suggests that questions about identity development and professional commitment overlap the time of training and the early stages of one's career. In this sense conducting the "Professionalization" Project without linking it directly to the induction of teachers into the profession would be extremely shortsighted.

The present stage of knowledge in the area of socialization in education is meager. For the most part socialization research has been conducted in the area of basic socialization, - that is, child development. Recently we have seen some work in adult or occupational socialization but the field has yet to reach maturity. In the past decade a number of theoretically based studies have appeared, although most of them have been within the area of the health professions.

The model which has emerged from these studies and which is suggested as relevant to the induction of teachers is outlined below.

A Model for Studying Socialization in Education.

The two basic groups from which this study will collect data are the students in the educational program at Fredonia and the staff involved in their training. At this point it looks like the project will try to follow all or a large sample of the students entering the program in the latter part of their second year of school. Due to the relatively high attrition rate after completion of their training (studies show up to 70% of beginning teachers leave teaching for a variety of reasons by the end of the first three or four years) it seems wise to cover all or a major portion of the universe for a given year.

The second group included is the staff, that is, the people charged with training teachers. This group may be called the socializing agents. It includes all those in teaching and administration at the college and a sample of those in the surrounding schools with whom students interact during their pre-service, extra-institutional rotations. It also includes supervisors, teachers during student teaching or internship.

At this point a word should be mentioned about the interrelationship of this project and other TERC projects. Much of the information required in this study about schools, students and the staff of this institution is also needed in other projects of TERC. For example, information will be required about the role supervising teachers play in the training (see the proposed Bouchard study of the supervision of beginning teachers) of neophyte teachers. This information will also be necessary in the development of a model for the supervision of student teaching (see project by Driscoll). In addition, the "Information System" component of the TERC program proposes to gather a broad range of demographic information on students enrolled in the teacher education program. This project and the above mentioned activities will require coordination for the following reasons: (1) to avoid duplication of effort; (2) to increase the efficiency of our data collection and, most importantly, (3) to intellectually integrate this effort with the work of the TERC staff. The point to be stressed is that this must be done at the planning stage and continued throughout the conduct of the studies. The Summer 1970 has been designated as the planning period for all of these projects and this will be the time to coordinate them.

Various kinds of information will be collected from the staff either in the form of interviews or questionnaires. In the early stages of the project, information will be secured from key members of the educational staff in very unstructured interviews. This will be done for an important theoretical reason -- it cannot be assumed that the kinds of information required concerning socializing agents can presently be identified. The objective is to let them describe and outline the contours of the training programs from their perspective, since this is really one of the key structuring factors in defining what students encounter in the program.

The information covered by topical areas is listed below:

General Staff Topical Guide

1) the professional identity of the staff
    - involves covering their career line to the present and their current activities, especially as they have to do with the training of students.
2) their conceptions of education as a field or discipline
    - their overview of the field and its boundaries, the areas of major interest within it, the type or types within the field and their perceptions of the types the training program is interested in producing
3) their description of the training program
    - their view of the program and what it stands for in the field, its reputation in the field, its basic strengths and weaknesses, how it differs from other institutions with which they have been affiliated.
4) the nature of their outside professional affiliations and activities
    - memberships and participation in professional organizations, work in such capacities as professional advisory boards, consultantships and editorial boards.
5) their perceptions of what kind of a teacher the program produces
    - what students are like when they finish and what they should be like
    - how does one go about producing such a product (this focuses explicitly on their understanding of how their own activities contribute to this process).

6) their conceptions of trainee development
    - are training experiences ordered into particular sequences and if so, what is their order
    - what stages, if any, trainees pass through
    - their expectations of trainees, the troubles they are apt to encounter and the mechanisms they use to help trainees.

General Trainee Interview and Questionnaire Guide

1) some basic social demographic data on students such as where students come from socially

2) what paths students follow into teaching
    - how did they choose education, how firm is the choice and what were key influencing factors in making the choice

3) what alternatives did they consider and what factors were involved

4) their view of this training program
    - what are they looking for in the training program
    - what expectations do they have about it and the extent to which they are appropriate

5) specific expectations about the program
    - what will the most important parts of the program be
    - what kinds of experiences are most conducive to learning
    - what will their teachers be like (or should they be like)
    - how are they to be evaluated and criteria staff will use
    - their expectations about the areas of difficulty they will encounter

6) their conceptions of education
    - what boundaries do they see; what's distinctive about it
    - major innovations presently developing
    - areas where new advances will develop
    - their projections about the field in ten or twenty years

7) their career expectations
    - what they hope to do when they finish; the alternatives they are considering, the degree of firmness they have about these ideas
    - their ideas about further training in the field and what this will involve
    - their understanding of how one starts in the field and the problems they are most likely to encounter
    - their career projections; what kinds of things they can consider and what things are definitely out
    - their conceptions of success and professional satisfaction

Trainees will be followed all through their program. This means that they will be contacted at least once each year and followed after at least one year away from the program. The interviews and questionnaires, after the initial one, will focus on changes which develop as they proceed through the program.

To summarize briefly, previous discussion suggests that following one group through a program longitudinally is a major task. To really handle some of the methodological problems involved in this kind of a study, it will be necessary to follow successive groups.

This general outline provides an overview of the kinds of material which will be gathered from trainees and socializing agents. It is anticipated that the data gathering instruments and much of the staff material will be developed this spring and summer. A general questionnaire covering a broad range of background data has been field tested on about 150 students by the TERC staff and will provide beginning information on items. This preliminary work should allow us to become acquainted with the field. The trainees of next fall (1970) will be the first group in this study. This would mean (assuming they are juniors in education) that interview and questionnaire data would be gathered during their junior and senior years and again one year after they leave. It is anticipated that the number to be followed will be considerably less, given such factors as the draft, dropouts, and those who get married and fail to enter the profession.

A number of related topics bear directly on this study and suggest fruitful avenues for future research endeavors. The following come to mind:

1) a study of school principals - their conceptions of their role and the role problems they encounter
2) a study of local school boards and educational decision-making
3) a series of community surveys on pertinent topics in education
4) a series of attitudinal surveys of teachers dealing with such topics as the increasing militancy of teachers and the responses to appeals such as labor unions are now making to teachers.

Staff Requirements

Staff

1. Paul Dommermuth, Project Supervisor
2. Additional staff-
   Ron Hull, John Bouchard, Ken Nelson, Ed Ludwig
3. Clerical staff, part-time research assistants
   and work-study students

TIME TABLE*

1.	General long-range planning	Sept. 1, 1969-Aug. 31, 1970
2.	Early fieldwork	Sept. 1, 1969-Dec. 31, 1969
3.	Development of staff interview schedule and questionnaire	Jan. 1, 1970-Mar. 31, 1970
4.	Collection of staff data	Mar. 1, 1970-Aug. 31, 1970
5.	Overlapping data analysis	June 1, 1970-Aug. 31, 1970

*Note that phases of this project overlap, especially the long-range planning for the whole project.

H. PRELIMINARY MODEL FOR STUDENT TEACHING - Robert Driscoll

General Introduction

The following section explains (1) the present status of the student teacher's involvement in POISE Projects and (2) the dimensions which are to be basic for future development of the student teacher within the POISE Model. (See Appendix II, F).

Outlook

A program undertaken by the college and the Pilot Schools for the development of field experiences in teacher preparation entails the following concepts:

1) The student teacher's program is individualized and based upon his strengths and weaknesses. Flexibility of staffing, professional experiences, and scheduling are all necessary components for this concept.
2) The student teacher's program provides contact with several teachers who have varying education, experiences and teaching styles.
3) The student teacher's program is structured to provide many school experiences which supplement classroom teaching.
4) College and Pilot School staff members are brought together to design and implement student teacher education programs.

The Present Status of Student Teacher Involvement

The student teacher is assigned to a unit leader who acts as the prime initiator of individualizing the student teacher's experience.

Through planning with the student teacher an individualized student teaching program unfolds based upon the student teacher's strengths and weaknesses. A student's program could consist of a series of experiences designed around observation and participation in Grades K-6, individual work with pupils at differing levels, teaching groups at more than one level, making home visits, attending and contributing to unit planning meetings, planning field trips; working with the school psychologist, attendance officer, principal, librarian, custodial staff and community agencies to gain a wider perspective of the school as a social system. Each assignment emphasizes as many varying kinds of experiences with children as possible. Each student teacher usually has one intensive experience at a level of his choice and with a cooperating teacher of his choice.

On the basis of his total individualized program, student teacher evaluation is accomplished through the student teacher and unit leader selecting professionals who will in a team setting discuss his growth and development. Each member contributes his perceptions on the basis of the kind of experience he has had with the student teacher. The college representative is but one member of the group carrying no greater authority than any other member of the team.

A set of recommended roles is being jointly formulated by the Pilot Schools and college representatives.

Present College Involvement

Supervision of each student teacher has been handled by college personnel from the Teacher Education Research Center and staff members within each elementary school. The college supervisor's work has consisted of advising, planning and observing the student teacher.

The Next Developmental Phase

A student teaching program which capitalizes on the conceptual framework of POISE and at the same time provides a meaningful pre-professional experience must move toward a more professional and individualized induction into teaching.

The realization of this plan necessitates the consideration of a full-time appointment of a professional person who would be responsible to both the college and a pilot school system. This position would necessitate a person who can work effectively in a school system with children, who can direct faculty in-service development--instructional and curricular--and who can coordinate student teachers' experiences.

This program would allow a concentration of resources into one school system. A future projected assignment of a substantial number of student teachers each semester to pilot school systems could allow for a concentration of effort in providing a viable student teaching experience and at the same time providing a greater base for the development of the individualized model of instruction.

I. Plan for the Study of Induction Problems of Beginning Teachers - Ronald E. Hull

Introduction

This proposed study will be based upon the findings of the "Pilot Study of Problems and Practices in the Induction of Beginning Teachers." In the Pilot Study, a major purpose was to test the assumption that the interview technique of data gathering has potential for securing more reliable and valid information than the usual mail-out questionnaire because: (1) non-response may be reduced; (2) response bias may be reduced; (3) interviews are not limited to a set of items of anticipatory relevance; and (4) interviewing allows the researcher to critically analyze a broad spectrum of data in order to gain information which may transcend the usual forced choice response.

Corollary purposes were to gain some tentative insight into induction problems and practices by interviewing a small random sample of area teachers and to gain some insight as to: (1) means of planning and conducting effective interviews; (2) training requirements for interviewers; (3) organization and management problems involved in surveys which use interview techniques; and (4) cost and efficiency factors.

In carrying out the Pilot Study, it became quite clear which factors may preclude the attainment of the above goals. For example, non-response was not eliminated, especially on open-end questions, because: (1) occasionally the interviewers did not ask the question; (2) some open-end questions were ambivalent, were directed at behaviors which did not exist, or were directed at persons who could not or would not answer; (3) occasionally, audio recording equipment failed to function; and (4) there was some evidence of interviewer bias. With revision of the interview schedules, more intensive training of interviewers and more reliability checks during the data collection period, many of the above problems may be alleviated.

Even though there was high (40 to 80 percent) non-response error on some of the open-end questions, they tended to yield unanticipated responses which were, in some cases, quite revealing. For instance, a number of respondents mentioned certain job related interpersonal problems which were quite troublesome to them even though the question was not asked per se.

Open-end responses proved to be troublesome for the investigators to analyze. This pointed up the need for more sophisticated content analysis as well as a refinement of the instruments in order that some of the questions may be structured in ways which will minimize the ambiguity of responses while still allowing for creative and unanticipated answers. Questions dealing with problems mentioned frequently by respondents will undoubtedly be included as structured, forced choice questions in the revised interview schedules.

Both principals and beginning teachers generally indicated that the interview method of data gathering was an effective means of obtaining authentic information about the problems and practices of induction.

First-year teachers seemed generally dissatisfied with the relevance of their pre-service training and also seemed dissatisfied with schools' induction programs. It was evident that almost all the teachers in the sample encountered a great many problems and difficulties in their initial teaching experience; these tended to persist throughout the first year for many, but were solved or ameliorated by most.

Unfortunately, the traditional school setting is such that teachers as well as children are likely to be treated as groups rather than as individuals. For example, it was shown that new teachers were met as a group before school started for briefing on schedules and routines. If individualization did occur, it probably came as a result of an unstructured use of a "buddy system." But, here too, the helping teacher tended to share with the new teacher a procedure used in solving similar past problems. There was little evidence to show that beginning teachers were helped in specific ways to solve their problems as they experienced them. The Pilot Study suggested the need to obtain more incisive data to further clarify and pinpoint the unique needs and concerns of beginning teachers at various stages of their first year of service.

Although principals were generally optimistic about the effects of their induction programs, they recognized a need for improvement. The incongruence between teachers' perceptions of the help they received in their first year of teaching and principals' responses with regard to their induction programs demands further study.

The schedules prepared for interviewing principals in the Pilot Study were designed to secure data relating to a chronological sequence of induction practices planned throughout the school year. However, data which were obtained indicated little evidence of sequentially planned school programs of induction activities for first-year teachers among schools visited in the sample. Data also indicated that wide differences were attached to the meaning of "the induction process" and "supervision."

As a consequence of the findings of the Pilot Study, as they relate to teachers and principals, it has been decided to plan and conduct separate studies of the induction of beginning teachers. Plans for the study, Induction Problems of Beginning Teachers, are described below. Plans for the principal-oriented study, Supervisory Practice in the Induction of Teachers, are described in a separate proposal. Both induction studies will be coordinated with Dommermuth's study, The Professional Socialization of Teachers, which is also described in this report.

Objectives of the Study of Induction Problems of Beginning Teachers

The main objective of the study is to further refine a procedure of obtaining valid base line data on the induction problems of beginning teachers. The data will be used as the basis for developing a system of continuous feedback to both the training institutions and the schools. Consequently, this study is supportive to the long range TERC plan to develop model programs in consortium with the schools. Thus the providing of feedback that will help bridge the hiatus between the preservice preparation of teachers and their subsequent effective functioning in the school setting, is an additional objective.

Research Design of the Study

A pre-experimental,[1] single group, research design will be used: $R\ O_1\ X\ O_2$.

In this design, R represents a random sample of beginning teachers; O_1 represents interview data collected after approximately one month of teaching experience; X represents teaching experience subsequent to the first interview; and O_2 represents the second interview data collected late in the school term.

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[1] Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs in Research (Chicago: Rand McNally Co., 1963), pp. 7-12.

The Population and the Sample. A random sample will be selected from the universe of all beginning teachers in Western New York State. In this study, "beginning teachers" are defined as individuals who have started their first professional year of teaching. "Western New York State" shall include Allegany, Cattaraugus, Chautauqua and Erie (excluding the City of Buffalo) Counties. Although the population will be greatly expanded as compared with the Pilot Study, it is planned not to use cluster sampling due to the experience of the Pilot Study which demonstrated that the possible economies of cluster sampling did not offset the efficiencies of stratified random sampling. Strata to be considered include: (1) Elementary, Secondary and mixed; (2) Male and Female; (3) Fredonia graduates and others; and (4) possible interactions of these classifications. An attempt will be made to obtain consultative assistance in planning efficient sampling procedures for the comprehensive study.

Data Gathering Procedures. The Pilot Study data indicated clearly, as do other studies of the problems and concerns of teachers,[2] that beginning teachers' problems are unique and may vary according to a chronological sequence of events. In order to gain more insight into the process of problematic events which confront first-year teachers, each subject will be interviewed early (October) and again near the end (April) of the school year.[3] This procedure will allow the investigators to study: (1) problems and concerns initially encountered by neophyte teachers; (2) methods employed in the effort to ameliorate or solve various problems; (3) some results of efforts to accommodate problems; and (4) perceptions and concerns subsequent to the first year's classroom experience. It is hoped that this procedure will yield information on the process by which beginning teachers meet, prevent, assuage, solve, or are overcome by the demands of the teaching role. It necessarily follows that this vital information may ultimately be used to help develop individualized programs in the schools for the professional adjustment of teachers.

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[2] Frances F. Fuller, "Concerns of Teachers: A Developmental Conceptualization," American Education Research Journal, VI: 207-226, No. 2, March, 1969.

[3] Ibid., pp. 211-213. Fuller shows that "student teachers were, during the first few weeks of the semester concerned mostly with themselves. They continued to be self-concerned during most of the semester, shifting to more concern with pupils toward the end of their student teaching."

Interview Schedules. The teachers' interview schedules will be revised in light of recommendations from interviewers and members of the TERC staff who were involved in the Pilot Study. The interview schedules will then be field tested and resubmitted for minor revision. Audio recordings of the interview dialogues will be obtained.

Training of Interviewers. Some of the Pilot Study interviewers will be reengaged and may assist in the training and supervision of additional interviewers. Training sessions will include familiarization with the interview schedules and practice sessions using the interview schedules in conjunction with the audio recorder. Interviewer training and field testing of the instruments can be conducted simultaneously.

Inasmuch as item non-response was identified as a continuing problem in the Pilot Study, an effort will be made to minimize non-response error through frequent periodic monitoring of interviewers' procedures.

Statistical Treatment of the Data. Frequency of responses to interview questions, both forced response and open-end, will be tabulated and compared for differences by using non-parametric tests of significance. Data will be analyzed, tabulated and categorized by a team of investigators and clerical staff. On the basis of the Pilot Study experience, comparison will be made between and among the sample stratifications mentioned in the sampling plan above. Tabulations and categorizations of open-end responses will be investigated with respect to reliability.

Results of the study will be disseminated to professional staff at the training institutions as well as to pilot and other area schools for the purpose of further developing an induction model designed to help first-year teachers perform effectively as professionals during their initial year of teaching.

Cost Estimation

The cost of carrying out the Pilot Study using the random cluster sampling procedure with faculty wives as interviewers was approximately twenty dollars per unit. Based on a simulated cost projection, using simple random sampling procedures, it is estimated that the per unit cost of this project should not greatly exceed that of the Pilot Study. However, an alternate plan is being considered where college students may be employed as interviewers. This possibility will be field tested and if students demonstrate the desired degree of competence, the interviewing costs may be reduced by as much as forty or fifty percent. A second alternate may be to use a combination of students and faculty wives to work as interviewing teams thus providing a degree of "built-in" coordination for student interviewers. This idea would not be as economical as using all-student interviewers but reliability and validity may be strengthened. It is possible that non-response may be reduced by telephone procedures. Again, the most efficient and effective utilization of interviewers and procedures may be determined by limited field testing of the above mentioned alternatives.

STAFF UTILIZATION

Professional Personnel: Ronald Hull, Brien Murphy, John Bouchard, Kenneth Nelson, John Bicknell and Paul Dommermuth

Semi-professional Personnel: Clerical Staff and Interviewers

Man Month (MM) = 20 eight-hour days

Event	Professional MM	Semi-Professional MM
1. Planning	4.0	
2. Training Interviewers	1.0	1.0
3. Field Testing Instruments	1.0	
4. Data Gathering	2.0	6.0
5. Data Analysis	2.0	10.0
6. Reporting and Dissemination	3.0	1.0
Total	13.0	18.0

TENTATIVE SCHEDULE FOR CONDUCTING THE STUDY

	ACTIVITY	DATES
1.	Planning, refining and field testing survey instruments and procedures	Jan. 1 - June 30, 1970
2.	Developing sampling design	July 1 - July 31, 1970
3.	Obtain population information	Aug. 1 - Sept. 15, 1970
4.	Training of interviewers	Sept. 15 - Sept. 30, 1970
5.	Conduct first interviews	Oct. 1 - Oct. 31, 1970
6.	Data analysis	Nov. 1 - Dec. 31, 1970
7.	Arrange for second interviews	Jan. 1 - Feb. 28, 1971
8.	Conduct second interviews	April 1 - April 30, 1971
9.	Data analysis	May 1 - July 31, 1971
10.	Write and review of report	Aug. 1 - Sept. 30, 1971
11.	Printing of report and dissemination	Oct. 1 - Oct. 31, 1971

J. Development of an Approach to the Teaching of Intermediate and Junior High School Social Studies Through an Independent Multi-Media Approach - Matthew Ludes

This project is directed at developing self-contained independent study materials for intermediate and junior high school social studies students. The materials are based upon a multi-media approach to learning, emphasizing the use of books, filmstrips, tapes, movies and other assorted hard and soft wares.

In the fall of 1966, the researchers surveyed all of the available materials in the surrounding area: those at the Board of Cooperative Educational Services (BOCES), the Instructional Resources Center at SUC/Fredonia, and at the Teacher Education Materials Center (TEMC), at SUC/Fredonia. The researchers also corresponded with publishing companies in an effort to obtain information about newly available materials on the selected subject area. In the winter of 1966 approximately twenty independent study activities were developed utilizing all available resources. The materials were field tested in two fifth grade classes at the Campus School in the spring of that year. During the summer of 1967, the study lessons were revised and new materials were devised.

During the fall semester of the 1969-70 academic year, a slide illustrated presentation describing the project was prepared. This illustrated presentation will be given at three in-service workshops in Fredonia, Jamestown and Olean during the spring semester of the current academic year. The topic selected for presentation is "The Study of Latin America."

K. The Inter-Campus Consortium for Computer Assisted Instruction in Music Theory - John A. Maier

During the past year, members of the Consortium have continued to upgrade and field test the 12 units developed in the previous year. Field testing has been conducted at SUC/Brockport and SUC/Potsdam. After February 1, 1970, field testing will also be conducted at SUC/Fredonia.

Four new programs were developed during the past year. Three of the programs, developed by Professors Hullfish and Pottebaum of SUC/Brockport, are actually a sequence of games designed to provide a review for students in building modes and scales. The fourth program, developed by Professor Maier of SUC/Fredonia, is an instructional sequence in the aural recognition of triad quality. The former programs have already undergone field testing, while the latter program will not be field tested until sometime after February 1, 1970.

In addition to testing and developing programs, an investigation comparing two methods of branching was conducted. The investigation, conducted by Professor Hullfish, was a comparison of branching based upon a history of student responses (response-sensitive) and branching based upon the last response (response-insensitive). It was the intent of the study to discover whether the achievement and attitude of students in the response-sensitive program was significantly different from the students in the response-insensitive program. The main conclusions derived from the results were:

1) The program utilizing a history of student responses to make branching decisions seemed to produce greater achievement, especially at the higher cognitive levels.

2) The two types of programs produced no measurable difference in student attitude toward the presenting medium.

To further enlarge the scope and variety of drill materials, the Consortium is forwarding a proposal drawn up by Harry Lincoln of SUNY Binghamton, to the Office of Education, Department of Health, Education and Welfare, for funding of a two-year project. This project, which is an extension of the original work begun under the sponsorship of TERC, calls for simultaneous field testing of the developed materials at SUNY/Binghamton, SUC/Brockport, SUC/Fredonia and SUC/Potsdam. The project, if funded, should begin about September 1, 1970.

L. A Study of the Spelling of Third, Fourth, and Fifth Grade Pupils Who Received i/t/a Reading Instruction - Walter T. Petty and J. Brien Murphy

The principal objective of this study, begun in October of 1968 and now being completed in written summary form, was to secure data on the spelling abilities of third, fourth, and fifth grade pupils of the Fredonia Schools to answer the following questions:

1) What kinds of spelling errors are made by children who received i/t/a reading instruction?
2) Do these errors differ and, if so, in what ways from errors made by children who received reading instruction in programs which use traditional orthography?
3) Are the spelling errors the i/t/a pupils make more or less rational than those made by other pupils?
4) Is the number of different kinds of errors made by i/t/a-instructed pupils greater or fewer than those made by other pupils?
5) Are the representations the i/t/a-instructed pupils give to sounds consistent with the representations they would have given to them in the i/t/a orthography?

Two spelling tests of fifty words each, constructed from data in the New Iowa Spelling Scale, were recorded on tapes and administered by Mr. Murphy to 314 pupils who had received i/t/a reading instruction and 269 pupils whose reading materials had been in traditional orthography. The test papers were examined for misspellings, followed by the categorizing of each misspelled word as rational or irrational according to data in Phonema-Grapheme Correspondences as Cues to Spelling Improvement. These data were also used to categorize each graphic representation for a sound (phoneme) in the misspelled word as rational or irrational. Comparisons were made of these categories between the two groups of pupils to answer the above questions.

The importance of this study is implied in statements of spelling researchers who have asked for comparisons of the types of errors pupils made when taught under new approaches. While a good share of the interest of these researchers is in the soundness of teaching sound-to-symbol generalizations in traditional orthography, an analysis of representations given to sounds by pupils who were taught reading by an orthography with an even more reliable form of sound-to-symbol correspondence (i/t/a) should provide leads to both a workable way to make error comparisons and to measure effectiveness of teaching sound-to-symbol correspondences in a spelling program.

M. A Consortium for Microteaching and Experimentation Using Far West Laboratory Minicourses - Douglas Rector, David Mack and Jack Hanssel.

A Consortium has been organized which involves the Teacher Education Research Center, the Western New York School Development Council, and the Southwestern New York Association for the Improvement of Instruction (SWNY Association) in a joint project designed both for in-service education and for demonstration and field testing - a series of teaching-skills training programs being developed by the Far West Laboratory for Research and Development. The project is made possible through cooperative arrangements between the Teacher Education Research Center and the Far West Laboratory.

The development of the Consortium has resulted from a series of planning conferences between the Teacher Education Research Center staff, Dr. John Bouchard, representing the SWNY Association, and David Mack and Jack Hanssel as members of the Western New York School Development Council. As a result of the conferences a proposal, "Using the Minicourse to Improve Discussion Management Skills," has been submitted to the New York State Education Department Bureau of In-service Education for funding as a Locally Oriented In-Service Education (LOIS) proposal.

As stated in the proposal, the project is designed as an in-service program to assist teachers in developing specific teaching skills that can find immediate use in the classroom.

The project is planned in four stages:

1) Spring, 1970. Information conferences in cooperation with the Southwestern New York Association.
2) Summer 1970. Orientation workshops, in cooperation with the Teacher Education Research Center.
3) School year 1970-71. In-service training. The participants will be teams of approximately five teachers in twelve schools within the eight-county area of the School Development Council. Criteria for selection will involve both the willingness of local school administrators and teachers to undertake the program and the capability of the district to provide the equipment and staff needed for the training.
4) Summer 1971. Evaluation. The training component of the project will be evaluated by the staff of the School Development Council. The field testing evaluation will be performed by the Teacher Education Research Center. A final report will be prepared by the Consortium.

To the Teacher Education Research Center, the formation of the Consortium is a logical extension of its research and demonstration focus on the Minicourse programs. These programs are primarily designed for this type of use in in-service education. In many of its aspects, the program will be coordinated with on-campus Minicourse experimentation, the development of the capability of the Center in performing videotape evaluations and the development of Minicourse training programs with POISE pilot schools.

N. A Model for the Integration of Minicourse Materials with the Elementary Mathematics Methods Courses - Douglas Rector, Alice Hilton, Lonie Rudd, Bonnie Star and Margaret Rector

Introduction

The major purpose of the study is to integrate the teaching skills materials known as Minicourses, produced by the Far West Laboratory for Research and Development at Berkeley, California with Education 316 - Teaching of Mathematics in the Elementary School, a course required of elementary education majors during their junior professional semester at the University College at Fredonia.

The project is an outgrowth of the field testing of Minicourse I, Teacher's Questioning Skills with a similar group of pre-student teaching elementary education juniors, conducted in the spring semester of 1969.

The objectives are as follows:

1. To develop and integrate a three-component model for the the mathematics methods course. The three components are: (a) Methods instruction, (b) Selected mathematics teaching, (c) The technical skills of teaching incorporated in Minicourse V, "Effective Tutoring in Elementary School Mathematics."
2. To develop procedures in microteaching, incorporating peer teaching, which will integrate the foregoing components.
3. To develop procedures for the utilization of the results of behavioral analysis of the videotaped microteaching in order to effect individualization of microteaching experiences on a large scale.

4. To test the effectiveness and utility of the model.
5. To test the effectiveness and operational utility of procedures for individualizing the use of Minicourse materials in a methods sequence.

Importance of the Study

The present study represents a major aspect of the research and development effort of the Teacher Education Research Center, and it is part of a continuing cooperation between the Center, the Far West Regional Laboratory and the Education Department of the Fredonia College. Professionals concerned with teacher education have become increasingly aware of a need for the integration of theory and practice in the pre-service preparation of prospective elementary school teachers. This, and the demand of students for more relevance in their training has led to our search for an experience-oriented approach to teacher preparation. Available materials which focus on the technical skills of teaching seem to offer a procedure for meeting this need. Our experience during the past year with Minicourse I, from the Far West Laboratory, supplied the background for the initiation of the present study. In our previous study we found that the students responded favorably to the materials and valued the instruction that they received. An analysis of the results seems to indicate that the program was successful.[1] However, the experimental usage of the materials was accomplished apart from the regular methods instruction and proved to be unwieldly.

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[1] Rector, Douglas and Bonnie Star, "The Effect of Pupil Feedback on Questioning Behavior of Pre-service Elementary Education Students." (see Appendix II - O-1).

The proposed integration of the Minicourse materials with mathematics methods has not been attempted at any other institution. This developmental project will provide a model for future use in other areas of methods instruction.

The target population will be all students enrolled in Education 316 - Teaching of Mathematics in the Elementary School, during the 1970 semester. The instructors are Dr. Alice Hilton and Dr. Lonie Rudd.

Control Group

In view of the experience on this and other small campuses with the contamination of experimental variables by the close association of the control group populations with the experimental group, it was decided to establish as control group the 120 students enrolled in the same program during the fall semester of 1969. This decision was reinforced by data which assesses the stability of the groups in the areas of mathematical knowledge and attitudes toward mathematics teaching.[2]

Experimental Group

The experimental group will be the 180 students enrolled in the elementary mathematics methods course during the spring semester, 1970. The content for the microteaching instruction will be related to this course as determined by the instructors. The Minicourse V materials will be utilized. In the laboratory situation flexible groups, each consisting of four students, will participate in microteaching, feedback and interaction. Videotape recorders will be used both for modeling and microteaching.

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2. Hilton, Alice, "The Understandings of Mathematics and the Attitudes Toward Mathematics Expressed by Prospective Elementary School Teachers," study in progress, 1968.

The Research Design

Experimental population - two group design, with control

Group 1 $O_1\ O_2\ O_3$ ......X_1 ...... $O_4\ O_5\ O_6$

Group 2 $O_1\ O_2\ O_3$ ......$X_1\ X_2$..... $O_4\ O_5\ O_6$

$O_2\ O_3$ .... $O_4\ O_5\ O_6$

Control Group

O_1, O_4 - Videotape - Analysis of skills taught in Minicourse V

O_2, O_5 - Measures of attitudes toward mathematics teaching

O_3, O_6 - Measures of mathematical knowledge

X_1 - The basic program of mathematics microteaching, using Minicourse V, and involving peer group teaching and interaction, and self-feedback through study of videotaped teaching.

X_1 - Individually-prescribed programs for use of Minicourse V. Programs will be varied on the basis of the analysis of both the pre-tapes and other beginning microteaching performances.

Evaluation

The analysis of the videotaped microteaching will be made according to the procedures established by the Far West Regional Laboratory, Inter-rater reliability will be assessed periodically. Significance of individual behavioral changes will be determined by appropriate statistical tests. A follow-up study, using sampling procedures, is projected for the student-teaching semester.

Significance of the Study

The significant effects of the use of the Far West Laboratory Minicourses as programs for the in-service training of teachers in the technical skills of teaching have been substantiated by extensive field testing.[3] The programs are appropriate and relevant for use with experienced teachers.

Our experimental use of Minicourse I, Teachers Questioning Skills with pre-student teaching elementary education juniors has indicated the value of these programs at the pre-teaching level, but our experience and observations have led us to seek a closer integration of these programs with the methods teaching. The proposed experimental program is, as indicated, a planned fusion of methods instruction, mathematics microteaching experiences, and specific skills training as found in the Minicourse V program from the Far West Laboratory. The testing of the effectiveness of the model should have relevance to the research program of the Far West Laboratory, and should be of interest to those working in the area of skill-training. The between-group variable of individualization is one which our research and our observations in the previous experiment with Minicourse I have indicated to be most relevant to the effective implementation of the training. Any significant findings will be reported at AERA or NERRA and submitted for journal publication.

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3. Langer, Philip, "The Range of Teaching Skills That Can Be Changed by the Minicourse Model," paper presented annual meeting, A.P.A., Washington, September, 1969.

Apart from the research aspects, the implementation of the model program should be of interest to those concerned with teacher education. It is intended that the curricular organization and procedures be fully documented and be made available through publication.

The general effectiveness of microteaching procedures such as this has been frequently examined, with affirmative findings. In this study, we are also concerned with the practical utility of the procedures in teacher education. To that end, an analysis is being made of the specific costs of the operational aspects (other than developmental) of the program. The results will be reported in terms of a per-student cost.

Status of Project

The testing and the videotaped microteaching has been completed for the control group of 115 first-semester elementary juniors and videotapes are being analyzed.

Three mini-classrooms for videotaped microteaching in the trailer at Old Main are being made ready for use by the 150 students who will participate in the program.

Materials, teaching procedures, and organizational schedules are being prepared.

0. The Effect of Pupil Feedback on Questioning Behavior of Pre-service Elementary Education Students Engaged Microteaching -

Douglas Rector, Bonnie Star and Donald McFarl

During the spring semester, 1969, the Teacher Education Research Center field tested Minicourse I entitled, "Effective Questioning in a Classroom Discussion."

Minicourse I is a pre-packaged training program developed by the Far West Laboratory for Educational Research and Development at Berkeley, California. The Minicourse materials are a relatively new program for training teachers in specific teaching skills through the use of model lessons, the practice of the skills in a microteaching situation and videotape replays of these lessons to provide self-corrective feedback.

Previous field testing had been conducted with experienced teachers and student teachers. At Fredonia, the Minicourse was used with elementary education students in the pre-student teaching portion of their professional experience. The project had three major goals.

1) To test the effectiveness of the Minicourse Model as a tool for the shaping of the behavior of students during the pre-student teaching portion of the teacher training program.
2) To determine whether an initial experience in a microteaching situation can contribute significantly to the later performance of elementary education students during their student teaching experience.

3) To test the effectiveness of pupil feedback concerning the teacher's behavior.

The project, directed by Dr. Donald McFarland, involved a randomly selected group of 32 elementary education juniors (Groups A and B) and a corresponding group of 16 juniors (Group C) who were engaged in the alternative or control treatment of a field experience involving classroom observation for two weeks during the spring semester. The Experimental group taught elementary pupils in a ten-week, part-time microteaching experience using the VTR (video tape recorder) as the feedback device. This group was further divided according to feedback treatments. One group (Group A) used self-feedback from the VTR's only. The other group (Group B) used a variety of pupil feedback questionnaires. Pre- and post-taping of teaching behaviors accomplished to determine change produced by participation in the Minicourse.

Upon completion of the project, questionnaires were administered to the students in the experimental and control groups in order to elicit their attitudes toward the Minicourse experience. An analysis of responses showed that the students valued quite highly both the content of the Minicourse and the microteaching procedures. Specifically, 72% of the students indicated that they would repeat the Minicourse experience. Criticisms of the procedures focused upon the artificality of the experimental situation in terms of children and teaching. Most expressed a desire for more opportunity to work with the children than was provided in the experiment.

When the students in Treatment B (Pupil Feedback) were asked if the use of pupil feedback in the Minicourse would encourage them to use this technique in subsequent classroom teaching, 71% of the group answered affirmatively. This is a most encouraging attitudinal finding in light of the fact that the students expressed dissatisfaction with the specific feedback procedures used in the experiment.

A more complete summary of the findings of the attitudinal study is to be found in the report, "Student Attitudes Toward the Use of Minicourse I," a study presented by Dr. Bonnie Star at the annual meeting of the Educational Research Association of New York, at Kiamesha Lake, New York, in November, 1969.

As has been stated, a primary goal of the experiment was to determine the effectiveness of extending Minicourse I, a self-instructional program designed for use with experienced teachers, into the pre-student teaching phase of elementary teacher education at Fredonia. In addition to the attitudinal study, behavioral analysis has been made of the students' beginning and post experiment teaching, recorded on videotape, and using procedures developed by the Far West Laboratory for Educational Research and Development. The data has been completed on this phase of the study, and the changes in student behavior have been assessed for significance using the Wilcoxon "t".[1]

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[1] Popham, W. J., Educational Statistics: Use and Interpretation, Harper and Row, New York, 1967.

The behavioral changes were assessed in the same category system used by the Far West Laboratory in reporting the main field test data for this and other programs.[2]

The changes for the experimental group were found to be significant in the following categories: "Teacher Talk" ($p = .005$), "Length of Pupil Response" (.09), "Use of Higher Order Questions" (.03) and "Repeats Pupil Answers" (.005). The latter is a negative behavior which the program was designed to extinguish. It may be noted that in three other categories of negative behavior, "Repeats Question," "Answers Own Question," and "One-Word Pupil Answers," the initial level of these behaviors in the group was very low, and the post-test means of the group were comparable to, or below those reported for the experienced teachers.[3]

A second goal, and the subject of the major treatment variable, was an attempt to determine the effect of adding pupil-feedback concerning teacher behavior to the self-feedback procedures used with experienced teachers. The behavioral analysis indicates that the group using self-feedback procedures alone achieved significant change only in the category of "Teacher Talk" ($p = .025$). Further, in several categories the direction of change was negative. In contrast, the group which received pupil feedback made changes which reached significance in the categories of "Teacher Talk" (.025), "Repeats Pupil Answers" (.025), and "Use of Higher Order Questions" (.005). In almost all other categories the direction of change was positive.

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[2] Langer, Philip, "The Range of Teaching Skills That Can Be Changed by the Minicourse Model," a paper presented at the annual meeting of the American Psychological Association, Washington, D. C., September, 1969.

[3] Id.

The third goal of the study is the determination of the effects of the program on the students' questioning behaviors in subsequent student teaching. For this comparison, a control group was established, and corresponding videotapes of teaching have been made. To date, no significant behavioral change has been made by the control group in any category in any direction. The field-taping of classroom teaching will be concluded for all students during the Spring semester, 1969-70, permitting final analysis of the total experiment.

Summary Discussion

The findings from the attitudinal study seem to indicate quite clearly that the students valued and were acceptant of the training, though their feelings were somewhat ambivalent concerning the pupil-feedback procedures and the obvious experimental basis of the program.

The analysis of the first measures of behavioral change appears to indicate effectiveness of the training, as compared with the group which had only the usual methods instruction.

A companion of the finding with the main field test data seems to indicate that the training, as compared with its use with experienced teachers, is somewhat less effective when used at the pre-student teaching level of elementary teacher education.

The findings concerning behavioral change in the group using pupil-feedback procedures gain strength when considered in relation to the lack of significant change in the group using self-feedback procedures alone, the customary procedure used with experienced teachers in the main field-testing. The findings appear to relate to the lessened effect of the training when used at the pre-student-teaching level, and would seem to warrant the incorporation and further testing of pupil-feedback with this and other Minicourse materials at this level of training. These findings, when taken in conjunction with the findings of the attitudinal study done with the students and the faculty participating in the experiment, would appear to make the following questions most relevant for study with use of Minicourse materials at the pre-student-teaching level of elementary teacher education:

1) What are the effects of incorporating further pupil or peer feedback refinements into the program at this level?
2) What are the effects of incorporating the Minicourse training materials into the sequence of methods instruction, instead of using them in isolation from the sequence, as was done in the experiment?
3) In the absence of daily teaching and classroom experience, what procedures can be used to give continuity and relevance to the training, at this level?

P. The Hawthorne Effect and the Teaching of Reading - Aubrey Roden

The Hawthorne Effect (whereby a group responds to a new treatment in a positive way due to the increased attention paid to them) is being researched in the Fredonia and Southwestern Central School Districts in a total of 12 classrooms.

Students of two treatments of reading, either Initial Teaching Alphabet (i/t/a) or Traditional Orthography (T.O.), with each occurring in both a control and experimental situation provided data from grade one which was gathered and tabulated during the 1967-1968 academic year. Data was gathered from the same students who were in second grade during the 1968-1969 academic year.

The sample consisted of two first grade classes in each of six different situations:

i/t/a	T.O.
1) control	1) control
2) experimental	2) experimental
3) control-control	3) control-control

In the future, the researchers plan to replicate the existing design with a new set of first grade classes. Both samples will be followed through a third grade in an attempt to find evidence of attitude toward reading.

A progress report for inclusion in the 1969 Annual Report was not available as of publication date.

APPENDIX III

VITAE OF PARTICIPANTS IN TERC PROJECTS

1. John B. Bouchard

Professor, Education Department, State University College at Fredonia. Executive Secretary, Southwestern New York Association for the Improvement of Instruction.

TERC Participation: Project Supervisor, "Continued Development and Implementation of a Pupil Oriented and Individualized System of Education (POISE) Model," 1969-;
Project Supervisor, "A Pilot Study of Supervisory Practices in Induction of Beginning Teachers," 1969-.

Education: B.S., M.S., Ed.D., Elementary Education, Administration and Supervision, Syracuse University.

Experience: Public School Teacher, Principal, New York; Summer Session Instructor, Syracuse University, Keane, New Hampshire, University of Michigan, State University College at Fredonia and Oswego; Professor of Education, Plymouth Teachers College, New Hampshire; Chairman, N-3 Committee; Chairman, Committee for sixty-hour program, "Preparation of Administrative and Supervisory Personnel."

Publications: Several articles published in Journal of Experimental Education, Review of Educational Research, Educational Administration and Supervision, Educational Leadership, New York State Education; USOE, ESEA, Title III Grant, Project Classroom Help, 1966-1969.

2. Paul R. Dommermuth

Associate Professor, Sociology Department, State University College at Fredonia.

TERC Participation: Project Supervisor, "The Professional Socialization of Teaching," 1969-.

Education: B.A., Houghton College; M.A., University of Rochester; Ph.D., Sociology, University of North Carolina.

Experience: Assistant Professor, University of Miami; National Institute of Mental Health trainee, University of North Carolina; Research Assistant, Institute of Labor and Management Relations, Rutgers University; Assistant Research Professor, Department of Psychiatry, College of Medicine, University of Illinois, Chicago; several consultantships in Illinois, North Carolina, and New York; Several papers at School of Pharmacy's Modern Drug Symposium, Sociological meetings, and University of Illinois Medical Center.

Paul R. Dommermuth, continued

Publications: "The Sick Role Cycle: An Approach to Medical Sociology" with Bernard Goldstein, Sociology and Social Research; "Differential Prior Socialization" with Rue Bucher and Joan Stelling, Social Forces; "Implications of Prior Socialization for Residency Programs in Psychiatry" with Rue Bucher and Joan Stelling, Archives of General Psychiatry.

3. Phyllis E. Dorman

Assistant Professor, Education Department, State University College at Fredonia.

TERC Participation: Project Supervisor, TERC sponsored study, "A Multi-Media Structurally Based Music Curriculum for Primary Grades," 1968-69.

Education: B.S., State University College at Fredonia; M.M., Northwestern University, Illinois; Ed.D., Curriculum Development, State University of New York at Buffalo.

Experience: Public School Music Teacher, New York; Music Supervisor, Campus School, State University College at Fredonia; Research Associate, TERC, Fredonia.

Publications: Articles in New York State School Music News and Music Educator's Journal; presenting paper at Music Educators' National Conference, Research Session, Chicago, Illinois, March, 1970.

4. Robert L. Driscoll

Director of Field Experiences, State University College at Fredonia.

TERC Participation: Project Supervisor, "Preliminary Model for Student Teaching," 1969-.

Education: B.S., State University College at Brockport; M.S., Alfred University; candidate for Ph.D., Teacher Education, Michigan State University.

Experience: Public school, Junior High and High School Teacher, New York; Principal, Elementary School, New York; Graduate Assistant and Teacher, Michigan State University; Off-campus Supervision, State University College at Oswego.

Publications: "Towards Understanding Pupils - A Perceptual View," Central Ideas.

5. Alice S. Hilton

Associate Professor, Education Department, State University College at Fredonia.

TERC Participation: Project Supervisor, "The Understandings of Mathematics and the Attitudes Toward Mathematics Expressed by Prospective Elementary School Teachers," 1967-69.
Project Supervisor, "A Model for the Integration of Minicourse Mathematics Materials with the Elementary Mathematics Methods Courses," 1969-.

Education: B.S., State University College at Buffalo; M.S., Syracuse University; Ed.D., Higher Education: Teacher Education, State University of New York at Buffalo.

Experience: Public School Teacher, New York; Junior High School, Campus School, State University College at Fredonia; Research Associate, TERC, Fredonia.

6. Ronald E. Hull

Research Assistant Professor, Teacher Education Research Center.

TERC Participation: Project Supervisor, "A Study of Induction Problems of Beginning Teachers," 1969-.

Education: B.S., Ohio Northern University; M.S., Indiana University; Ed.D., Educational Administration, University of New Mexico.

Experience: Public School Teacher and Administrator, Ohio; Principal, Guam, Mariana Islands; Graduate Assistant, Educational Foundations, University of New Mexico; teaching Educational Administration, State University College, Fredonia.

Publications: "The Relationship Between Achievement and Boys' and Girls' Perception of Their Relationship with Male and Female Teachers," 1969 AERA Paper Abstracts; "A Pilot Study of Problems and Practices in the Induction of Beginning Teachers," 1969 ERANYS Convocation Abstracts; "A Study of Induction Problems of Beginning Teachers," in progress in cooperation with TERC staff; "Sex-Role Identification in Pre-Adolescence," submitted for publication.

7. Edwin D. Lawson

Professor, Psychology Department, State University College at Fredonia.

TERC Participation: Project Supervisor, School Surveys, "What People Think of Their Schools," 1968-1969.

Education: A.B., A.M., Ph.D., Psychology, University of Illinois.

Experience: Laboratory Assistant, Research Assistant, Instructor, University of Illinois; Instructor, State University of New York at Buffalo; Instructor, Beloit College, Wisconsin; Assistant Professor, Associate Professor, State University of New York at Albany; Project Director, "The Effect of Social Status on Health Practices," New York State Health Department; Research Consultant, New York State Education Department; Professor and Chairman, Psychology Department, Acadia University, Nova Scotia; Professor and Chairman, Psychology Department, Stanislaus State College, California; Chairman, Psychology Department, State University College at Fredonia.

8. Matthew J. Ludes, Jr.

Assistant Professor, Education Department, State University College at Fredonia.

TERC Participation: Project Supervisor, "Development of an Approach to the Teaching of Intermediate and Junior High Social Studies Through an Independent Multi-Media Approach," 1966-.

Education: B.S., State University College at Fredonia; M.S., St. Bonaventure University; candidate for Ed.D., Elementary Education, State University of New York at Buffalo.

Experience: Junior High Equivalency Program, Army Education Center, Germany; Public School Teacher, New York; Summer NDEA Institute, Michigan State University; Campus School, State University College at Fredonia; Graduate Assistantship, State University at Buffalo.

9. John A. Maier

Assistant Professor, Music Department, State University College at Fredonia.

TERC Participation: Project Supervisor, TERC sponsored study, "The Inter-Campus Consortium for Computer Assisted Instruction in Music Theory," (1967-.)

Education: B.M., M.A., candidate for Ph.D., music theory, Ohio State University.

John Maier, continued

Experience: Instructor, Teaching Assistant, Ohio State University; Instructor of Acoustics, National Music Camp, Interlocken, Michigan; Performing experience: State University College at Fredonia organizations and symphony groups in West Virginia, Ohio and Pennsylvania.

Publications: Papers presented at annual music meetings; "Can CAI Provide a More Efficient Way to Teach Aural Recognition?" in Connecticut; "Prospects for Computer Assisted Instruction in Music Theory," and "The Use of Programmed Instruction in College Music Theory," in New York.

10. Donald McFarland

Associate Professor, Education Department, State University College at Fredonia (on leave).

TERC Participation: Project Supervisor, "The Effect of Pupil Feedback on Questioning Behavior of Pre-Service Elementary Education Students Engaged in Micro-Teaching," 1968-69.

Education: B.S., Illinois Institute of Technology; A.M., University of Michigan; M.Ed., Ed.D., Curriculum Development and Science Education, Wayne State University, Michigan.

Experience: Public School Teacher, Junior and Senior High Schools, Detroit and Chicago; undergraduate and graduate level preparation of science and mathematics teachers, Wayne State University and State University College at Fredonia; Director, Curriculum Development and Science Education In-service curriculum workshops; Consultant, AAAS program, Erie, Pennsylvania; Associate Director, NFS Institute of Introductory Physical Science, Junior High level.

11. Helen C. McKee

Research Assistant Professor, Teacher Education Research Center.

TERC Participation: Project Member, Development of Student Teacher Supervision Model, 1969-.
Project Member, Development of POISE (Pupil Oriented and Individualized System of Education) Model, 1969-.

Education: B.S., M.S., State University College at Fredonia.

Experience: Public School Teacher, New York; Campus School, State University College at Fredonia; Grant, "Improvement of Learning Through Listening Skills," State University College at Fredonia.

12. Mildred B. Mills

Research Associate Professor, Teacher Education Research Center.

TERC Participation: Project Member, Development of Student Teaching Supervision Model, 1969-.
Project Member, Development of POISE (Pupil Oriented and Individualized System of Education) Model, 1969-.

Education: B.S., Eastern Illinois University; M.A., Northwestern University, Illinois; Post Graduate, Pennsylvania State University.

Experience: Public School Teacher, Illinois; Campus School, State University College at Fredonia; Demonstration Teaching, Summer Sessions, Western Illinois University and State University College at Buffalo and Fredonia; ITTP Teacher, Extension Course Instructor, Education Methods Courses in Mathematics Methods and Remedial Reading, State University College at Fredonia; Winner of "Best Teacher" Contest, 1946, Quiz Kids, Chicago.

Publications: Articles in Educational Administration and Supervision, Grade Teacher, and Instructor. Children's Plays in Grade Teacher.

13. J. Brien Murphy

Research Assistant, Professor, Teacher Education Research Center.

TERC Participation: Project Member, Development of Student Teaching Supervision Model, 1969-.
Project Member, Development of POISE (Pupil Oriented and Individualized System of Education) Model, 1969-.
Project Member, "A Study of Induction Problems of Beginning Teachers," 1969-.

Education: B.S., M.S., State University College at Fredonia; Syracuse University; Candidate for Ed.D., State University of New York at Buffalo.

Experience: Public School Teacher, New York; Campus School, State University College at Fredonia; Instructor, NDEA Institute in Reading, Chatham College, Pittsburgh; ITTP Instructor, State University College at Fredonia.

14. Kenneth G. Nelson

Director, Teacher Education Research Center.

TERC Participation: Project Member, "Continued Development and Implementation of a Pupil Oriented and Individualized System of Education (POISE) Model," 1969-.
Project Member, "A Pilot Study of Supervisory Practices in Induction of Beginning Teachers," 1969-.

Education: M.A., Ph.D., Educational Psychology, University of Minnesota; Post-doctoral Scholar, Survey Research Center, University of Michigan, Army Officer schools.

Experience: Public School Teacher, High School Teacher, Iowa; Personnel and Classification Officer, U. S. Army; Counseling Psychologist, University of Minnesota; Assistant Professor, Education, Michigan State University; Associate, Educational Research, Division of Research, New York State Department of Education; Director, Training Research Division, Bureau of Naval Personnel; Educational Research Advisor, Turkish Ministry of Education, Ankara, Turkey; Chief, Higher Education Studies Branch, NCES, U. S. Office of Education; Program Coordinator, Research and Development Center, Bureau of Research, U.S. Office of Education.

Publications: Articles in guidance area; U. S. Office of Education, statistical publications; Research articles and papers, New York State Department of Education and Turkish Ministry of Education.

15. Walter T. Petty

Professor, Faculty of Educational Studies, State University of New York at Buffalo.

TERC participation: Project Supervisor, "A Study of the Spelling of Third, Fourth, and Fifth Grade Pupils Who Received i/t/a Reading Instruction," 1968-.

Education: B.S., Central Missouri State; M.A., Ph.D., University of Iowa; Washington University; Drake University.

Experience: Junior High Mathematics Teacher, Missouri; Teaching Principal, Missouri and New York; Professor, Education, Sacramento State College; Director, NDEA Reading Institute, Sacramento State College; Visiting Professor (summers), University of Colorado, University of Wichita, Fresno State College; Director, Training Trainers of Teachers Program, State University of New York at Buffalo.

16. Douglas Rector

Research Associate Professor, Teacher Education Research Center.

TERC Participation: Project Supervisor, "A Model for the Integration of Minicourse Mathematics Materials with the Elementary Mathematics Methods Courses," 1969-
Project Member, planning in cooperation with Western New York School Study Council (Project Innovation), "A Consortium for Micro-Teaching and Experimentation Using Far West Laboratory Minicourse," 1970.

Education: B.A., M.A., State University of New York at Albany; candidate for Ed.D., Higher Education, State University of New York at Buffalo.

Experience: Public School Teacher, New York; Junior High School, Campus School, State University College at Fredonia; Research Foundation Fellowship, 1968; Participant, TERC sponsored study, "The Effect of Pupil Feedback on Questioning Behavior of Pre-Service Elementary Education Students Engaged in Micro-Teaching"; Director, "The Effect of Pre-training in Questioning Skills on the Verbal Instructional Behavior of Elementary Student Teachers."

Publications: Co-author with Margaret Rector, Story-Plays for Remedial Reading: Grades 3-5, in press 1970, Harcourt, Brace and World.

17. Margaret Rector

Research Assistant

TERC Participation: Project Member, "A Model for the Integration of Minicourse Mathematics Materials with the Elementary Mathematics Methods Courses," 1969-.

Education: B.A., State University College at Fredonia.

Experience: Public School Teacher, New York; Project Participant, TERC sponsored study, "The Effect of Pupil Feedback on Questioning Behavior of Pre-Service Elementary Education Students Engaged in Micro-Teaching."

Publications: Co-author with Douglas Rector, Story-Plays for Remedial Reading: Grades 3-5, in press 1970, Harcourt, Brace and World.

18. Aubrey Roden

Associate Professor, State University of New York at Buffalo.

TERC Participation: Project Supervisor, "The Hawthorne Effect and the Teaching of Reading," 1967-.

Education: B.S., Tulane University; Ph.D., University of Texas.

Experience: Public and High School Teacher, School and Clinical Psychologist, California; Assistant Professor, University of California, Berkeley; Associate Professor, University of Alberta, Canada.

Publications: "Problems in Parental Discipline," The New Horizon, Vol. 2; "The Introductory Research Courses Reconsidered," Newsletter of National Society of Professors of Educational Research.

19. Lonie E. Rudd

Professor, Education Department, State University College at Fredonia.

TERC Participation: Project Member, "A Model for the Integration of Minicourse Mathematics Materials with the Elementary Mathematics Methods Courses," 1969-.

Education: B.S., Murray State University, Kentucky; M.A., Ph.D., Mathematics Education, Ohio State University.

Experience: Public School Teacher, grades, Kentucky and Massachusetts; United States Naval Reserve; High School Teacher, Ohio; Professor of Naval Science, Ohio State University; Associate Professor, Education Department, Tufts University, Massachusetts; Visiting Associate Professor, Mathematics, Teachers College, Columbia University, New York; Teacher Education Team, Kabul, Afghanistan.

Publications: Numerous articles in The Arithmetic Teacher; Arithmetic Textbooks for Pupils and Teachers; co-authored Methods of Teaching Elementary School Mathematics and Supplement to Methods of Teaching Elementary School Mathematics, printed in English, Farsi and Pushtu.

20. Malcolm J. Slakter

Professor, Educational Psychology Department, State University of New York at Buffalo.

TERC Participation: Project Supervisor, "Risk Taking and Test-Wiseness," 1967-1969.

Education: M.A., State University of New York at Albany; Ph.D., Educational Measurement and Statistics, Syracuse University.

Experience: Public High School Teacher, New York; Instructor, Mathematics Department, Syracuse University; Assistant Professor, Education Department, University of California, Berkeley; Associate Professor, Educational Psychology Department, State University of New York at Buffalo.

Publications: Articles in Journal of Educational Measurement, American Educational Research Journal, California Journal of Educational Research,Alberta Journal of Educational Research, Educational and Psychological Measurement, Vocational Guidance Quarterly.

21. Bonnie Star

Research Associate

TERC Participation: Project Member, "A Model for the Integration of Minicourse Mathematics Materials with the Elementary Mathematics Methods Courses," 1969-.

Education: B.A., State University of New York at Buffalo; M.A., Northwestern University, Illinois; Ed.D., Foreign Language Education, State University of New York at Buffalo.

Experience: Graduate Assistant, Northwestern University, State University of New York at Buffalo; Teacher, French enrichment, High School, New York; undergraduate level, State University of New York at Buffalo; Participant, TERC sponsored study, "The Effect of Pupil Feedback on Questioning Behavior of Pre-service Elementary Education Students Engaged in Micro-Teaching."